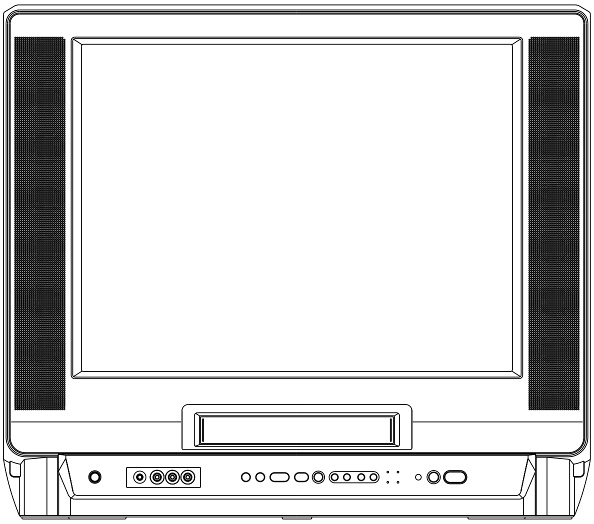
SERVICE

VX-FT21 KL



SERVICE MANUAL

INTEGRATED COLOR TV/STEREO
VIDEO CASSETTE RECORDER

BASIC TAPE MECHANISM : OVD-6S

SPECIFICATIONS

POWER REQUIREMENTS .... 230V AC, 50Hz
POWER CONSUMPTION 82W
Standby 6W
WEIGHT .... Approx.26.5 kg (58.4 lbs.)
DIMENSIONS .... 574 mm (W) x 489 mm (D) x 502 mm (H)
(22 5/8 x 19 3/8 x 19 7/8 in.)
PICTURE TUBE .... 21 in. (50.8 cm “V”), 90 degree deflection
TUNER SYSTEM .... Frequency synthesized tuners
CHANNEL COVERAGE .... UHF: 21 to 69
TV SYSTEM I
HORIZONTAL RESOLUTION .... 240 lines
OPERATING TEMPERATURE ...... 5°C to 40°C
VIDEO RECORDING SYSTEM ..... Rotary 2 head helical scanning system
VIDEO SIGNAL SYSTEM .... PAL colour signal, 625 lines, 50 fields
VIDEO HEAD .... Double azimuth 6 heads
USABLE CASSETTES .... VHS video cassettes

TAPE SPEED .... PAL
SP: 23.39 mm/sec.
LP: 11.69 mm/sec.
NTSC (playback SP only)
33.35 mm/sec.
RECORDING/PLAYBACK TIME ..... PAL
SP: 5 hours max. with E-300 tape
LP: 10 hours max. with E-300 tape
NTSC (playback SP only)
3 hours 30 minutes max. with T-210 tape
VIDEO INPUT .... 1.0Vp-p, 75 ohm, unbalanced
VIDEO OUTPUT .... 1.0Vp-p, 75 ohm, unbalanced
VIDEO S/N .... 53dB (nominal)
AUDIO INPUT .... SCART: –3.8 dBs, 50K ohm
RCA: –3.8 dBs, 50K ohm
AUDIO OUTPUT .... SCART: –3.8 dBs less than 1K ohm
AUDIO TRACK .... 3 tracks (Hi-Fi sound 2 tracks, Normal sound 1 track)

- **Design and specifications are subject to change without notice.**

S/M Code No. 09-00A-350-2N1

DATA

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SERVICING NOTICES ON CHECKING

1. KEEP THE NOTICES

As for the places which need special attentions, they are indicated with the labels or seals on the cabinet, chassis and parts. Make sure to keep the indications and notices in the operation manual.

2. AVOID AN ELECTRIC SHOCK

There is a high voltage part inside. Avoid an electric shock while the electric current is flowing.

3. USE THE DESIGNATED PARTS

The parts in this equipment have the specific characters of incombustibility and withstand voltage for safety. Therefore, the part which is replaced should be used the part which has the same character.
Especially as to the important parts for safety which is indicated in the circuit diagram or the table of parts as a ⚠ mark, the designated parts must be used.

4. PUT PARTS AND WIRES IN THE ORIGINAL POSITION AFTER ASSEMBLING OR WIRING

There are parts which use the insulation material such as a tube or tape for safety, or which are assembled in the condition that these do not contact with the printed board. The inside wiring is designed not to get closer to the pyrogenic parts and high voltage parts. Therefore, put these parts in the original positions.

5. TAKE CARE TO DEAL WITH THE CATHODE-RAY TUBE

In the condition that an explosion-proof cathode-ray tube is set in this equipment, safety is secured against implosion. However, when removing it or serving from backward, it is dangerous to give a shock. Take enough care to deal with it.

6. AVOID AN X-RAY

Safety is secured against an X-ray by considering about the cathode-ray tube and the high voltage peripheral circuit, etc.
Therefore, when repairing the high voltage peripheral circuit, use the designated parts and make sure not modify the circuit.
Repairing except indicates causes rising of high voltage, and it emits an X-ray from the cathode-ray tube.

7. PERFORM A SAFETY CHECK AFTER SERVICING

Confirm that the screws, parts and wiring which were removed in order to service are put in the original positions, or whether there are the portions which are deteriorated around the serviced places serviced or not. Check the insulation between the antenna terminal or external metal and the AC cord plug blades. And be sure the safety of that.

(INSULATION CHECK PROCEDURE)

1. Unplug the plug from the AC outlet.
2. Remove the antenna terminal on TV and turn on the TV.
3. Insulation resistance between the cord plug terminals and the eternal exposure metal **[Note 2]** should be more than 1M ohm by using the 500V insulation resistance meter **[Note 1]**.
4. If the insulation resistance is less than 1M ohm, the inspection repair should be required.

[Note 1]

If you have not the 500V insulation resistance meter, use a Tester.

[Note 2]

External exposure metal: Antenna terminal
Earphone jack

DISASSEMBLY INSTRUCTIONS

1. REMOVAL OF MECHANICAL PARTS AND P.C. BOARDS

1-1: BACK CABINET (Refer to Fig. 1-1)

1. Remove the 2 screws ①.
2. Remove the 4 screws ②.
3. Remove the 2 screws ③ which are used for holding the Back Cabinet.
4. Remove the AC cord from the AC cord hook ④.
5. Remove the Back Cabinet in the direction of arrow.

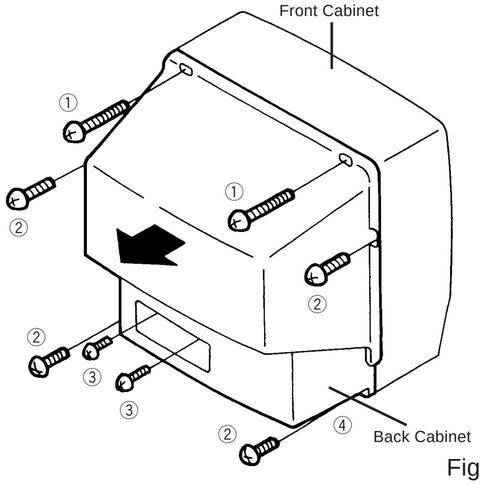


Fig. 1-1

1-2: CRT PCB (Refer to Fig. 1-2)

CAUTION: BEFORE REMOVING THE ANODE CAP, DISCHARGE ELECTRICITY BECAUSE IT CONTAINS HIGH VOLTAGE. BEFORE ATTEMPTING TO REMOVE OR REPAIR ANY PCB, UNPLUG THE POWER CORD FROM THE AC SOURCE.

1. Remove the Anode Cap. (Refer to REMOVAL OF ANODE CAP)
2. Disconnect the following connectors: (CP802 and CP805).
3. Remove the CRT PCB in the direction of arrow.

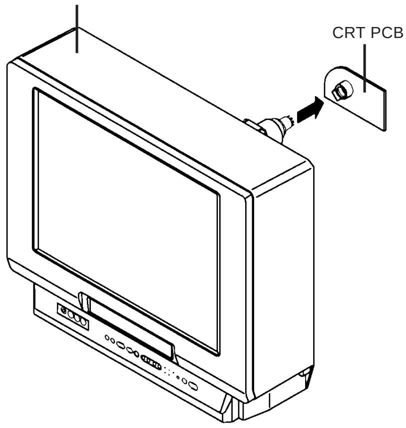


Fig. 1-2

1-3: TV/VCR BLOCK (Refer to Fig. 1-3)

1. Remove the 2 screws ①.
2. Disconnect the following connectors: (CP353, CP502, CP503, CP504, CP755 and CP4202).
3. Unlock the support ②.
4. Remove the TV/VCR Block in the direction of arrow.

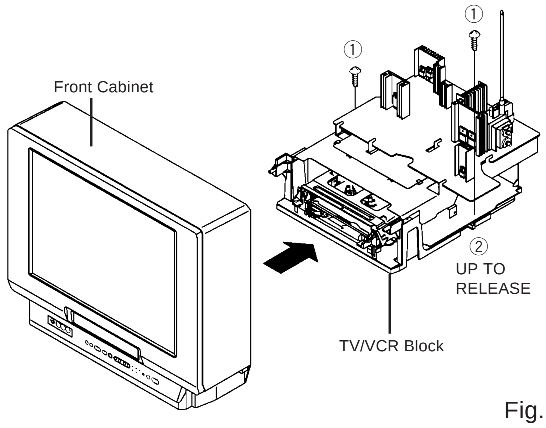


Fig. 1-3

1-4: MAIN PCB (Refer to Fig. 1-4)

1. Remove the screw ①.
2. Remove the Main PCB Holder.
3. Remove the 2 screws ②.
4. Remove the 3 screws ③.
5. Disconnect the following connectors: (CP402, CP810 and CP820).
6. Remove the Main PCB in the direction of arrow.

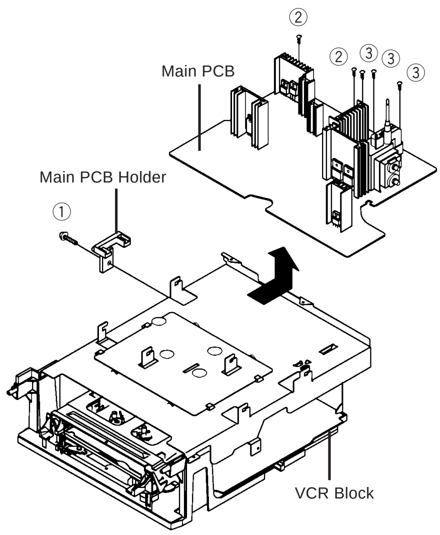


Fig. 1-4

DISASSEMBLY INSTRUCTIONS

1-5: DECK SHIELD PLATE (Refer to Fig. 1-5)

1. Remove the 2 screws ①.
2. Remove the 2 screws ②.
3. Remove the Deck Shield Plate in the direction of arrow (A).
4. Remove the screw ③.
5. Remove the Shield Plate Bottom in the direction of arrow (B).

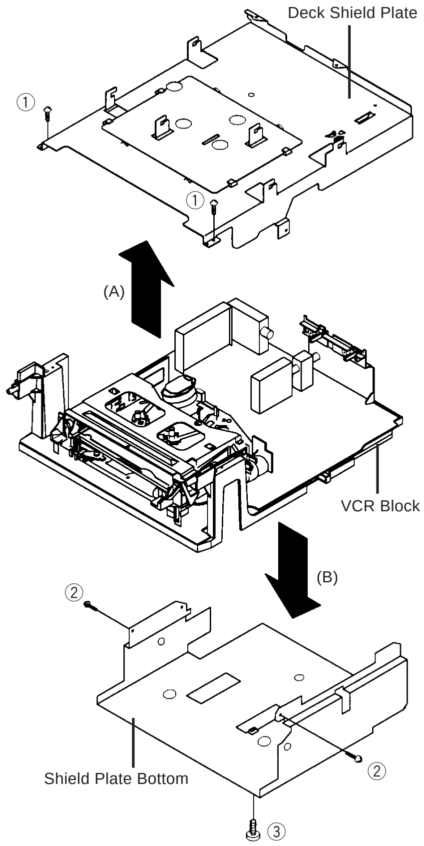


Fig. 1-5

1-6: DECK CHASSIS (Refer to Fig. 1-6)

1. Remove the 3 screws ①.
2. Disconnect the following connectors:
   (CP1004, CP1005, CP1006, CP4001, CP4004 and CP4005).
3. Remove the Deck Chassis in the direction of arrow.

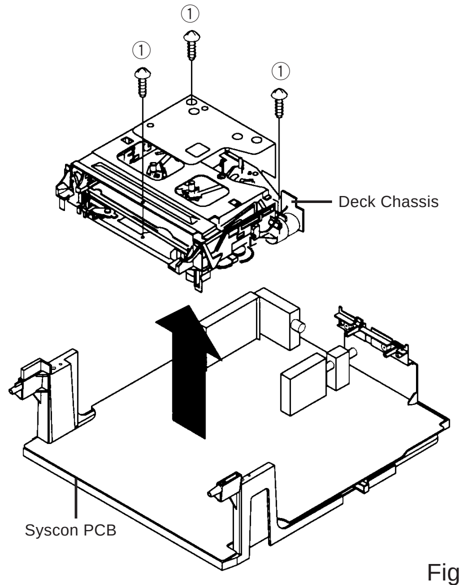


Fig. 1-6

1-7: JACK PLATE AND SYSCON PCB (Refer to Fig. 1-7)

1. Remove the screw ①.
2. Remove the Syscon PCB in the direction of arrow (A).
3. Remove the 2 screws ②.
4. Unlock the 2 supports ③.
5. Remove the Jack Plate in the direction of arrow (B).

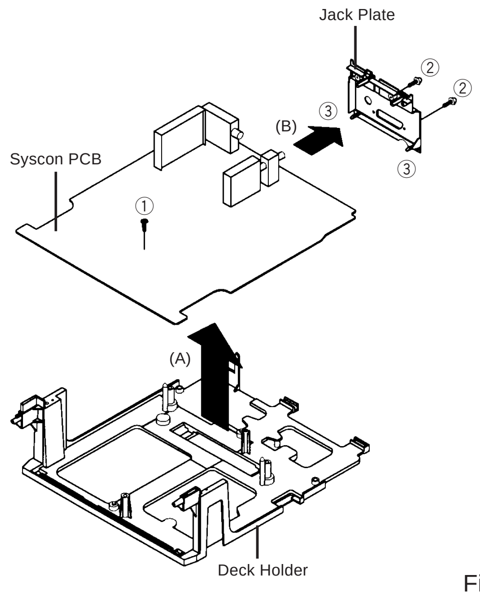


Fig. 1-7

DISASSEMBLY INSTRUCTIONS

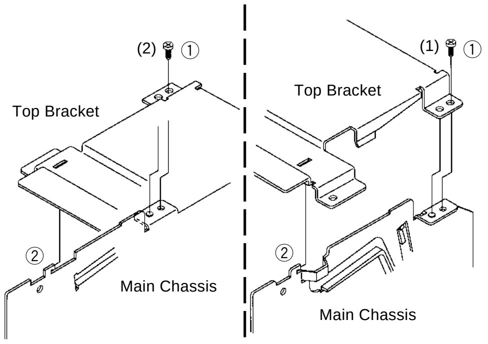
2. REMOVAL OF DECK PARTS

2-1: TOP BRACKET (Refer to Fig. 2-1)

1. Remove the 2 screws ①.
2. Slide the 2 supports ② and remove the Top Bracket.

NOTE

When you install the Top Bracket, install the screw (1) first, then install the screw (2).



• Screw Torque: 5 ± 0.5kgf•cm

Fig. 2-1

2-2: FLAP LEVER/TAPE GUIDE R (Refer to Fig. 2-2)

1. Move the Cassette Holder Ass'y to the back side.
2. Remove the Polyslider Washer ①.
3. Remove the Flap Lever.
4. Unlock the 3 supports ② and remove the Tape Guide R.

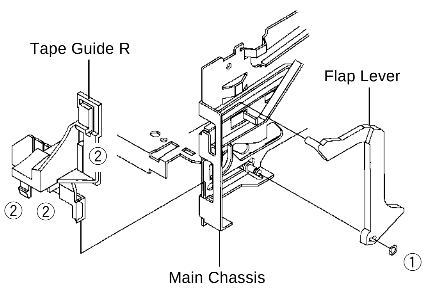
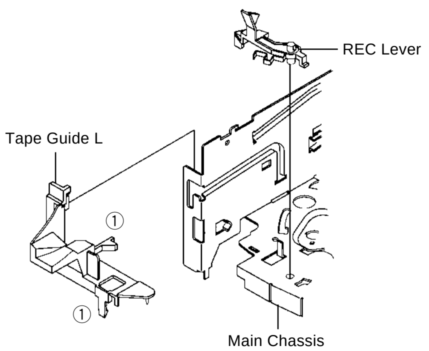


Fig. 2-2

2-3: TAPE GUIDE L (Refer to Fig. 2-3-A)

1. Move the Cassette Holder Ass'y to the back side.
2. Unlock the 2 supports ① and remove the Tape Guide L.
3. Remove the REC Lever. (Recorder only)

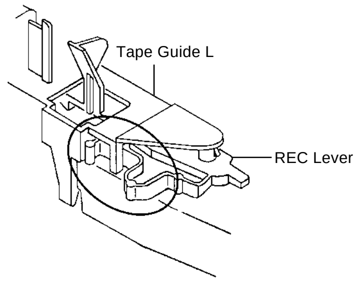


• The REC Lever is not installed on the Video Cassette Player.

Fig. 2-3-A

NOTE

When you install the Tape Guide L, install as shown in the circle of Fig. 2-3-B. **(Refer to Fig. 2-3-B)**



• The REC Lever is not installed on the Video Cassette Player.

Fig. 2-3-B

2-4: CASSETTE HOLDER ASS'Y (Refer to Fig. 2-4)

1. Move the Cassette Holder Ass'y to the front side.
2. Push the Locker R to remove the Cassette Side R.
3. Remove the Cassette Side L.

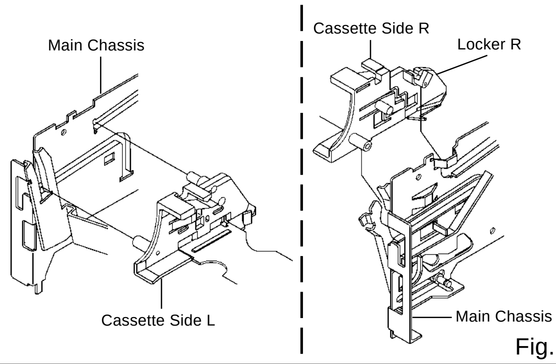


Fig. 2-4

2-5: CASSETTE SIDE L/R (Refer to Fig. 2-5)

1. Unlock the 4 supports ① and then remove the Cassette Side L/R.

NOTE

When you install the Cassette Side R, be sure to move the Locker R after installing.

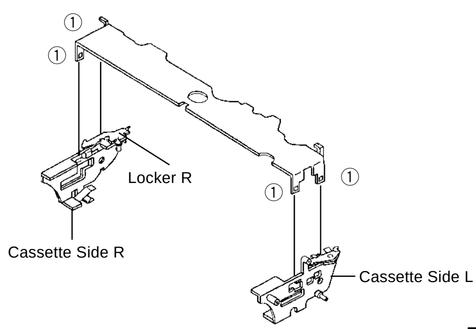


Fig. 2-5

DISASSEMBLY INSTRUCTIONS

2-6: LINK ASS'Y (Refer to Fig. 2-6)

1. Set the Link Ass'y to the Eject position.
2. Remove the (A) side of the Link Ass'y first, then remove the (B) side.

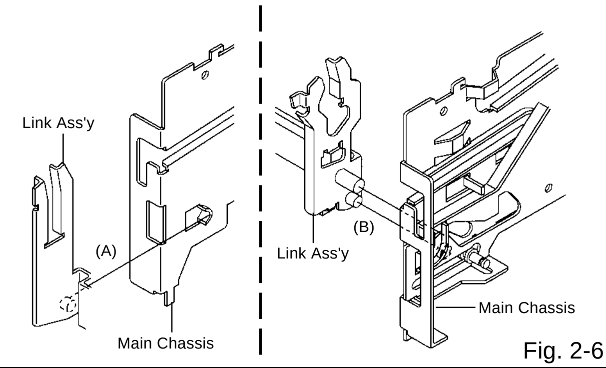
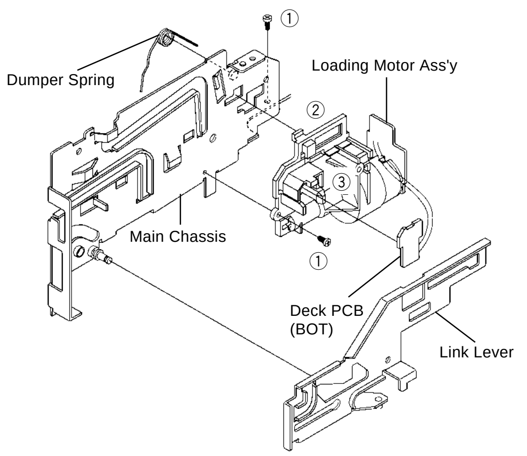


Fig. 2-6

2-7: LOADING MOTOR ASS'Y (Refer to Fig. 2-7)

1. Remove the Link Lever.
2. Remove the Dumper Spring.
3. Remove the 2 screws ①.
4. Unlock the support ② and remove the Loading Motor Ass'y.
5. Unlock the 2 supports ③ and remove the Deck PCB (BOT).



• Screw Torque: 5 ± 0.5kgf•cm

Fig. 2-7

2-8: SENSOR COVER L3 (Refer to Fig. 2-8)

1. Unlock the support ① and remove the Sensor Cover L3.

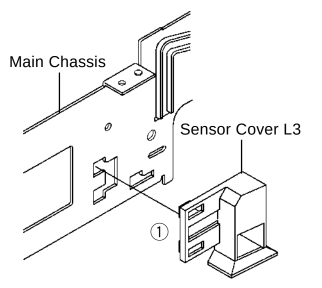


Fig. 2-8

2-9: TENSION ASS'Y (Refer to Fig. 2-9-A)

1. Move the Inclined S Ass'y to the back side.
2. Remove the Tension Spring.
3. Unlock the support ① and remove the Tension Arm Ass'y.
4. Remove the Tension Adjust.
5. Unlock the 2 supports ② and remove the Tension Band Ass'y.
6. Unlock the support ③ and remove the Tension Holder.
7. Remove the SS Brake Spring.
8. Remove the SS Arm Brake.

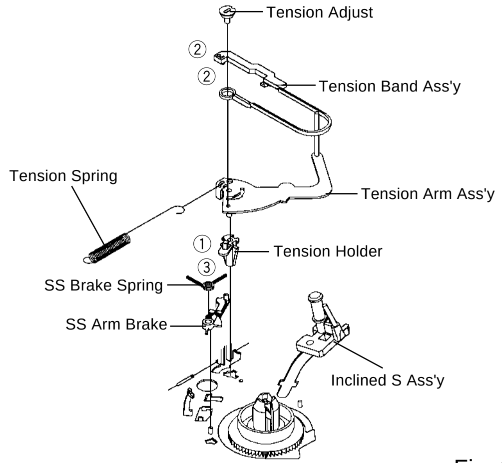


Fig. 2-9-A

NOTE

When you install the Tension Adjust, install as shown in Fig. 2-9-B. **(Refer to Fig. 2-9-B)**

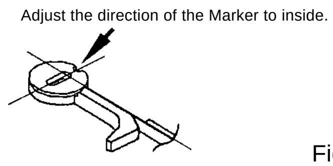


Fig. 2-9-B

2-10: T BRAKE ASS'Y (Refer to Fig. 2-10)

1. Remove the T Brake Spring.
2. Remove the T Brake Ass'y.

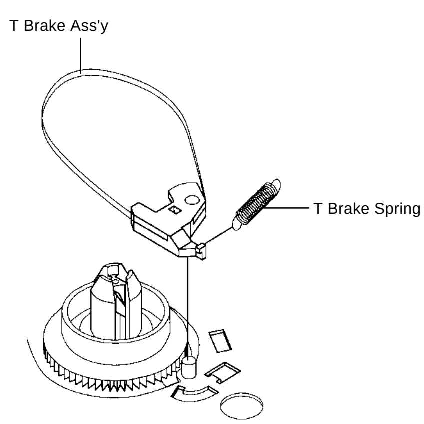


Fig. 2-10

DISASSEMBLY INSTRUCTIONS

2-11: S REEL/T REEL (Refer to Fig. 2-11)

1. Remove the S Reel and T Reel.
2. Remove the 2 Polyslider Washers ①.

NOTE

1. Take care not to damage the gears of the S Reel and T Reel.
2. The Polyslider Washer may be remained on the back of the reel.
3. Take care not to damage the shaft.
4. Do not touch the section "A" of S Reel and T Reel. (Use gloves.) **(Refer to Fig. 2-11)** Do not adhere the stains on it.
5. When you install the reel, clean the shaft and oil it (FL OIL #6115). (If you do not oil, noise may be heard in FF/REW mode.)
6. After installing the reel, adjust the height of the reel. **(Refer to MECHANICAL ADJUSTMENT)**

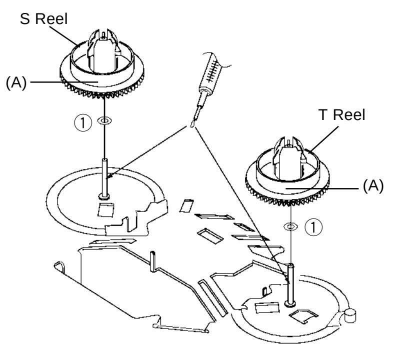
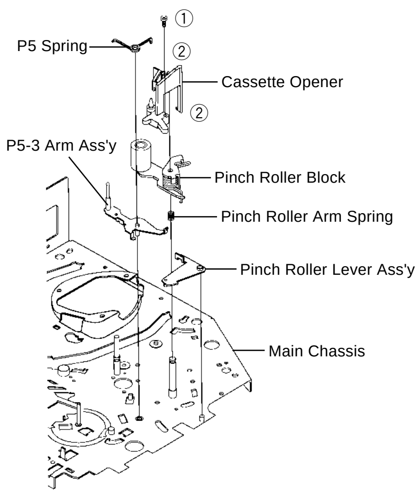


Fig. 2-11

2-12: PINCH ROLLER BLOCK/P5-3 ARM ASS'Y (Refer to Fig. 2-12-A)

1. Remove the P5 Spring.
2. Remove the screw ①.
3. Unlock the 2 supports ② and remove the Cassette Opener.
4. Remove the Pinch Roller Block, Pinch Roller Arm Spring, Pinch Roller Lever Ass'y and P5-3 Arm Ass'y.



• Screw Torque: 5 ± 0.5kgf•cm

Fig. 2-12-A

NOTE

1. Do not touch the Pinch Roller. (Use gloves.)
2. When you install the Pinch Roller Block, install as shown in the circle of Fig. 2-12-B. **(Refer to Fig. 2-12-B)**

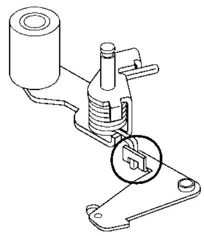


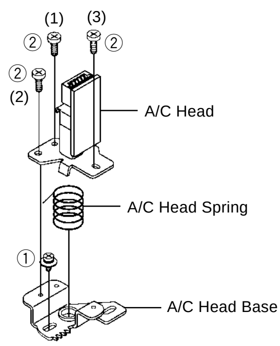
Fig. 2-12-B

2-13: A/C HEAD (Refer to Fig. 2-13-A)

1. Remove the screw ①.
2. Remove the A/C Head Base.
3. Remove the 3 screws ②.
4. Remove the A/C Head and A/C Head Spring.

NOTE

1. Do not touch the A/C Head. (Use gloves.)
2. When you install the A/C Head Spring, install as shown in Fig. 2-13-B. **(Refer to Fig. 2-13-B)**
3. When you install the A/C Head, tighten the screw (1) first, then tighten the screw (2), finally tighten the screw (3).



• Screw Torque: 4 ± 0.5kgf•cm (Screw ①)

Fig. 2-13-A

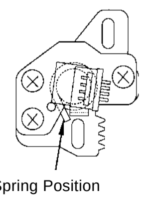
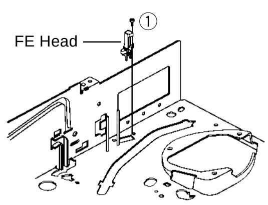


Fig. 2-13-B

2-14: FE HEAD (RECORDER ONLY) (Refer to Fig. 2-14)

1. Remove the screw ①.
2. Remove the FE Head.



• The FE Head is not installed on the Video Cassette Player.
• Screw Torque: 4 ± 0.5kgf•cm

Fig. 2-14

DISASSEMBLY INSTRUCTIONS

2-15: AHC ASS'Y/CYLINDER UNIT ASS'Y (Refer to Fig. 2-15)

1. Unlock the support ① and remove the AHC Ass'y.
2. Remove the 3 screws ②.
3. Remove the Cylinder Unit Ass'y.

NOTE

When you install the Cylinder Unit Ass'y, tighten the screws from (1) to (3) in order while pulling the Ass'y toward the left front direction.

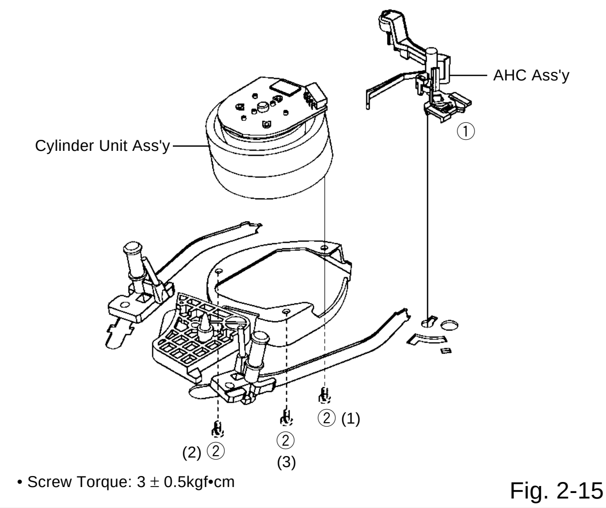


Fig. 2-15

2-16: CAPSTAN DD UNIT (Refer to Fig. 2-16)

1. Remove the Capstan Belt.
2. Remove the 3 screws ①.
3. Remove the Capstan DD Unit.

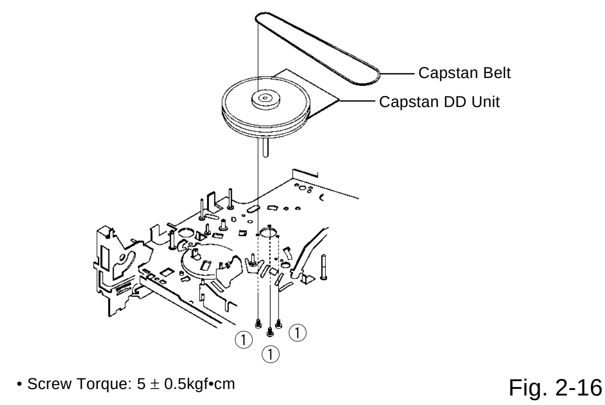


Fig. 2-16

2-17: MIDDLE GEAR/MAIN CAM (Refer to Fig. 2-17-A)

1. Remove the Polyslider Washer ①, then remove the Middle Gear.
2. Remove the E-Ring, then remove the Main Cam, P5 Cam and Pinch Roller Cam.
3. Remove the Polyslider Washer ②, then remove the Joint Gear.

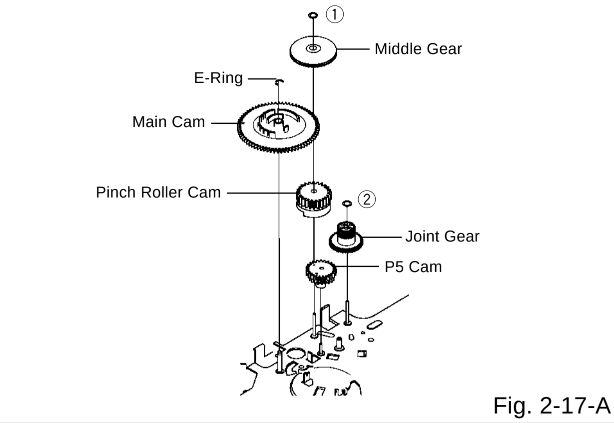


Fig. 2-17-A

NOTE

When you install the Pinch Roller Cam, P5 Cam and Main Cam, align each marker. **(Refer to Fig. 2-17-B)**

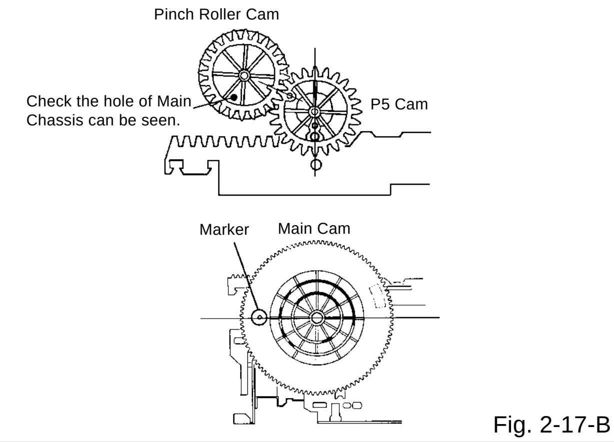


Fig. 2-17-B

2-18: CLUTCH ASS'Y (Refer to Fig. 2-18)

1. Remove the Polyslider Washer ①.
2. Remove the Clutch Ass'y, Ring Spring and Coupling Gear.
3. Unlock the 2 supports ② and remove the Clutch Lever.

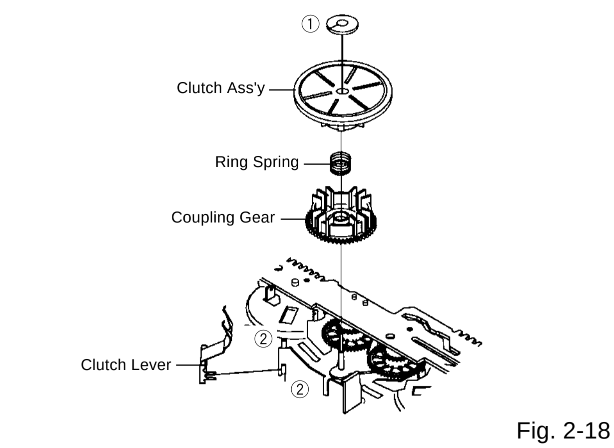
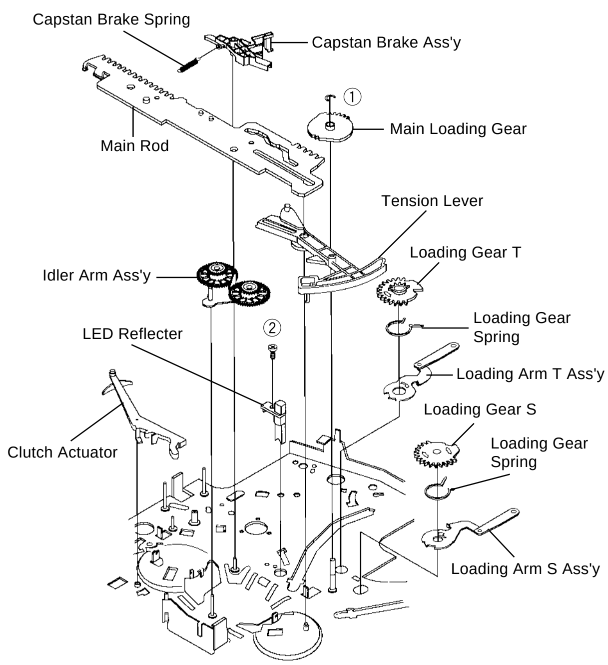


Fig. 2-18

DISASSEMBLY INSTRUCTIONS

2-19: LOADING GEAR S/T ASS'Y (Refer to Fig. 2-19-A)

1. Remove the E-Ring ① and remove the Main Loading Gear.
2. Remove the Capstan Brake Spring.
3. Slide the Main Rod and remove the Capstan Brake Ass'y.
4. Remove the Main Rod, Tension Lever, Clutch Actuator, Idler Arm Ass'y.
5. Remove the screw ②.
6. Remove the LED Reflecter.
7. Remove the Loading Arm S Ass'y and Loading Arm T Ass'y.
8. Remove the Loading Gear S and Loading Gear T.
9. Remove the Loading Gear Spring.



• Screw Torque: 5 ± 0.5kgf•cm

Fig. 2-19-A

NOTES

1. When you install the Loading Arm S Ass'y, Loading Arm T Ass'y and Main Loading Gear, align each marker. **(Refer to Fig. 2-19-B)**

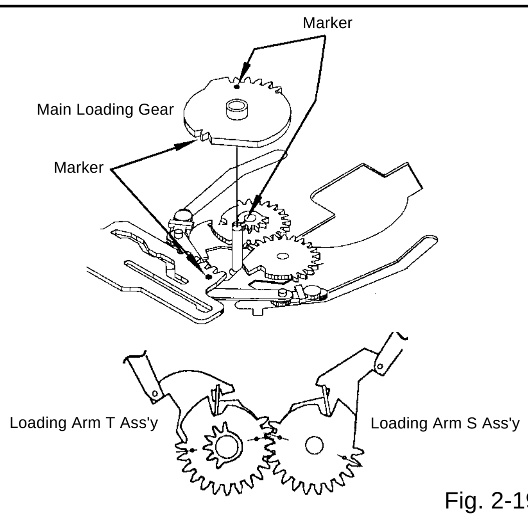


Fig. 2-19-B

2. When you install the Clutch Actuator, install as shown in the circle of Fig. 2-19-C. **(Refer to Fig. 2-19-C)**

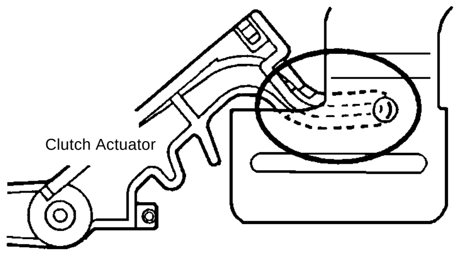


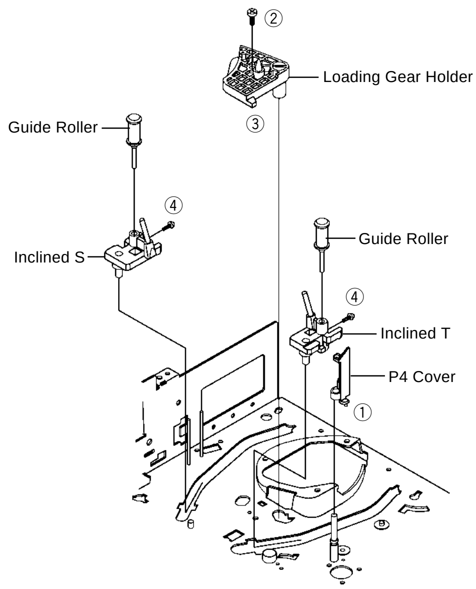
Fig. 2-19-C

2-20: INCLINED S/T ASS'Y (Refer to Fig. 2-20)

1. Unlock the support ① and remove the P4 Cover.
2. Remove the screw ②.
3. Unlock the support ③ and remove the Loading Gear Holder.
4. Remove the Inclined S.
5. Remove the Inclined T.
6. Remove the 2 screws ④, then remove the Guide Roller.

NOTE

Do not touch the roller of Guide Roller.



• Screw Torque: 5 ± 0.2kgf•cm (Screw ②)
• Screw Torque: 0.7 ± 0.2kgf•cm (Screw ④)

Fig. 2-20

DISASSEMBLY INSTRUCTIONS

3. REMOVAL OF ANODE CAP

Read the following **NOTED** items before starting work.

* After turning the power off there might still be a potential voltage that is very dangerous. When removing the Anode Cap, make sure to discharge the Anode Cap's potential voltage.
* Do not use pliers to loosen or tighten the Anode Cap terminal, this may cause the spring to be damaged.

REMOVAL

1. Follow the steps as follows to discharge the Anode Cap. **(Refer to Fig. 3-1.)**
   Connect one end of an Alligator Clip to the metal part of a flat-blade screwdriver and the other end to ground.
   While holding the plastic part of the insulated Screwdriver, touch the support of the Anode with the tip of the Screwdriver.
   A cracking noise will be heard as the voltage is discharged.

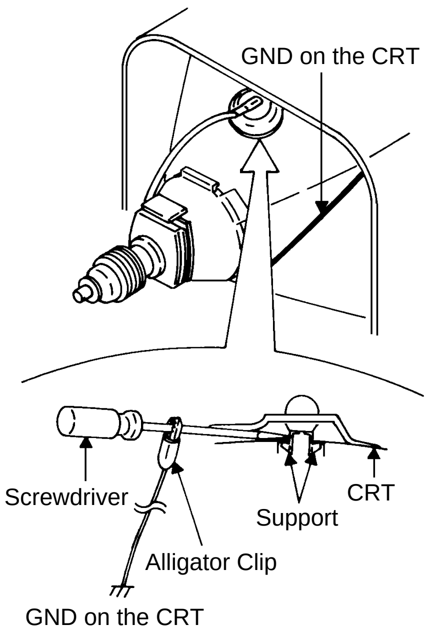


Fig. 3-1

2. Flip up the sides of the Rubber Cap in the direction of the arrow and remove one side of the support.
   (Refer to Fig. 3-2.)

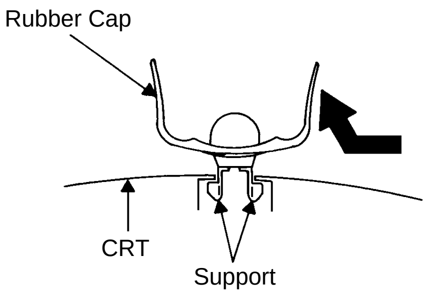


Fig. 3-2

3. After one side is removed, pull in the opposite direction to remove the other.

NOTE

Take care not to damage the Rubber Cap.

INSTALLATION

1. Clean the spot where the cap was located with a small amount of alcohol. **(Refer to Fig. 3-3.)**

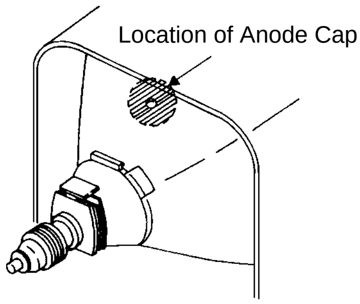


Fig. 3-3

NOTE

Confirm that there is no dirt, dust, etc. at the spot where the cap was located.

2. Arrange the wire of the Anode Cap and make sure the wire is not twisted.
3. Turn over the Rubber Cap. **(Refer to Fig. 3-4.)**

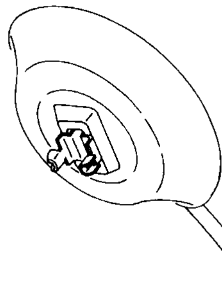


Fig. 3-4

4. Insert one end of the Anode Support into the anode button, then the other as shown in **Fig. 3-5**.

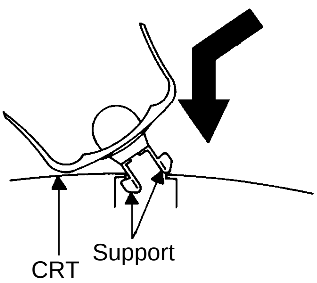


Fig. 3-5

5. Confirm that the Support is securely connected.
6. Put on the Rubber Cap without moving any parts.

KEY TO ABBREVIATIONS

	Abbreviation		Meaning
A	**A/C**	:	Audio/Control
	ACC	:	Automatic Color Control
	AE	:	Audio Erase
	AFC	:	Automatic Frequency Control
	AFT	:	Automatic Fine Tuning
	AFT DET	:	Automatic Fine Tuning Detect
	AGC	:	Automatic Gain Control
	AMP	:	Amplifier
	ANT	:	Antenna
	A.PB	:	Audio Playback
	APC	:	Automatic Phase Control
	ASS'Y	:	Assembly
	AT	:	All Time
	AUTO	:	Automatic
	A/V	:	Audio/Video
B	**BGP**	:	Burst Gate Pulse
	BOT	:	Beginning of Tape
	BPF	:	Bandpass Filter
	BRAKE SOL	:	Brake Solenoid
	BUFF	:	Buffer
	B/W	:	Black and White
C	**C**	:	Capacitance, Collector
	CASE	:	Cassette
	CAP	:	Capstan
	CARR	:	Carrier
	CH	:	Channel
	CLK	:	Clock
	CLOCK (SY-SE)	:	Clock (Syscon to Servo)
	COMB	:	Combination, Comb Filter
	CONV	:	Converter
	CPM	:	Capstan Motor
	CTL	:	Control
	CYL	:	Cylinder
	CYL-M	:	Cylinder-Motor
	CYL SENS	:	Cylinder-Sensor
D	**DATA (SY-CE)**	:	Data (Syscon to Servo)
	dB	:	Decibel
	DC	:	Direct Current
	DD Unit	:	Direct Drive Motor Unit
	DEMOD	:	Demodulator
	DET	:	Detector
	DEV	:	Deviation
E	**E**	:	Emitter
	EF	:	Emitter Follower
	EMPH	:	Emphasis
	ENC	:	Encoder
	ENV	:	Envelope
	EOT	:	End of Tape
	EQ	:	Equalizer
	EXT	:	External
F	**F**	:	Fuse
	FBC	:	Feed Back Clamp
	FE	:	Full Erase
	FF	:	Fast Forward, Flipflop
	FG	:	Frequency Generator
	FL SW	:	Front Loading Switch
	FM	:	Frequency Modulation
	FSC	:	Frequency Sub Carrier
	FWD	:	Forward
G	**GEN**	:	Generator
	GND	:	Ground
H	**H.P.F**	:	High Pass Filter
	H.SW	:	Head Switch
	Hz	:	Hertz
I	**IC**	:	Integrated Circuit
	IF	:	Intermediate Frequency
	IND	:	Indicator
	INV	:	Inverter
K	**KIL**	:	Killer
L	**L**	:	Left
	LED	:	Light Emitting Diode
	LIMIT AMP	:	Limiter Amplifier
	LM, LDM	:	Loading Motor
	LP	:	Long Play
	L.P.F	:	Low Pass Filter
	LUMI.	:	Luminance
M	**M**	:	Motor
	MAX	:	Maximum
	MINI	:	Minimum
	MIX	:	Mixer, mixing
	MM	:	Monostable Multivibrator
	MOD	:	Modulator, Modulation
	MPX	:	Multiplexer, Multiplex
	MS SW	:	Mecha State Switch
N	**NC**	:	Non Connection
	NR	:	Noise Reduction
O	**OSC**	:	Oscillator
	OPE	:	Operation
P	**PB**	:	Playback
	PB CTL	:	Playback Control
	PB-C	:	Playback-Chrominance
	PB-Y	:	Playback-Luminance
	PCB	:	Printed Circuit Board
	P. CON	:	Power Control
	PD	:	Phase Detector
	PG	:	Pulse Generator
	P-P	:	Peak-to Peak
R	**R**	:	Right
	REC	:	Recording
	REC-C	:	Recording-Chrominance
	REC-Y	:	Recording-Luminance
	REEL BRK	:	Reel Brake
	REEL S	:	Reel Sensor
	REF	:	Reference
	REG	:	Regulated, Regulator
	REW	:	Rewind
	REV, RVS	:	Reverse
	RF	:	Radio Frequency
	RMC	:	Remote Control
	RY	:	Relay
S	**S. CLK**	:	Serial Clock
	S. COM	:	Sensor Common
	S. DATA	:	Serial Data
	SEG	:	Segment
	SEL	:	Select, Selector
	SENS	:	Sensor
	SER	:	Search Mode
	SI	:	Serial Input
	SIF	:	Sound Intermediate Frequency
	SO	:	Serial Output
	SOL	:	Solenoid
	SP	:	Standard Play
	STB	:	Serial Strobe
	SW	:	Switch

KEY TO ABBREVIATIONS

S	**SYNC**	:	Synchronization
	SYNC SEP	:	Sync Separator, Separation
T	**TR**	:	Transistor
	TRAC	:	Tracking
	TRICK PB	:	Trick Playback
	TP	:	Test Point
U	**UNREG**	:	Unregulated
V	**V**	:	Volt
	VCO	:	Voltage Controlled Oscillator
	VIF	:	Video Intermediate Frequency
	VP	:	Vertical Pulse, Voltage Display
	V.PB	:	Video Playback
	VR	:	Variable Resistor
	V.REC	:	Video Recording
	VSF	:	Visual Search Fast Forward
	VSR	:	Visual Search Rewind
	VSS	:	Voltage Super Source
	V-SYNC	:	Vertical-Synchronization
	VT	:	Voltage Tuning
X	**X'TAL**	:	Crystal
Y	**Y/C**	:	Luminance/Chrominance

SERVICE MODE LIST

This unit provided with the following SERVICE MODES so you can repair, examine and adjust easily.

To enter SERVICE MODE, Unplug AC cord till lost actual clock time. Then press and hold Vol (-) button of main unit and remocon key for more than 2 seconds.

The both pressing of set key and remote control key will not be possible if clock has been set. To reset clock, either unplug AC cord and allow at least 30 minutes before Power On or alternatively, discharge backup capacitor.

Set Key	Remocon Key	Operations
VOL. (-) MIN	1	Initialization of the factory. NOTE: Do not use this for the normal servicing.
VOL. (-) MIN	2	Horizontal position adjustment of OSD. NOTE: Also can be adjusted by using the Adjustment MENU. Refer to the "ELECTRICAL ADJUSTMENT" (OSD HORIZONTAL).
VOL. (-) MIN	3	Adjust the PG SHIFTER automatically. Refer to the "ELECTRICAL ADJUSTMENT" (PG SHIFTER).
VOL. (-) MIN	4	Adjust the PG SHIFTER manually. Refer to the "ELECTRICAL ADJUSTMENT" (PG SHIFTER).
VOL. (-) MIN	5	Adjusting of the Tracking to the center position. NOTE: Also can be adjusted by pressing the ATR button for more tan 2 seconds during PLAY.
VOL. (-) MIN	6	POWER ON total hours and PLAY/REC total hours are displayed on the screen. Refer to the "PREVENTIVE CHECKS AND SERVICE INTERVALS" (CONFIRMATION OF USING HOURS). Can be checked of the INITIAL DATA of MEMORY IC. Refer to the "NOTE FOR THE REPLACING OF MEMORY IC".
VOL. (-) MIN	8	Writing of EEPROM initial data. NOTE: Do not use this for the normal servicing.
VOL. (-) MIN	9	Display of the Adjustment MENU on the screen. Refer to the "ELECTRICAL ADJUSTMENT" (On-Screen Display Adjustment).

Method	Operations
Press the ATR button on the remote control for more than 2 seconds during PLAY.	Adjusting of the Tracking to the center position. Refer to the "MECHANICAL ADJUSTMENT" (GUIDE ROLLER) and "ELECTRICAL ADJUSTMENT" (PG SHIFTER).
Make the short circuit between the test point of SERVICE and the GND.	The EOT/BOT/Reel sensor do not work at this moment. Refer to the "PREPARATION FOR SERVICING"

PREVENTIVE CHECKS AND SERVICE INTERVALS

The following standard table depends on environmental conditions and usage. Unless maintenance is properly carried out, the following service intervals may be quite shortened as harmful effects may be had on other parts. Also, long term storage or misuse may cause transformation and aging of rubber parts.

Parts Name \ Time	500 hours	1,000 hours	1,500 hours	2,000 hours	3,000 hours	Notes
Audio Control Head	■	■	■	■	■	Clean those parts in contact with the tape.
Full Erase Head (Recorder only)	■	■	■	■	■	
Capstan Belt			■	■	●	Clean the rubber, and parts which the rubber touches.
Pinch Roller	■	■	■	■	■ ●	
Capstan DD Unit					●	
Loading Motor					●	
Tension Band					●	
Capstan Shaft	■	■	■	■	■	
Tape Running Guide Post	■	■	■	■	■	Replace when rolling becomes abnormal.
Cylinder Unit	■	■	■	■	●	Clean the Head

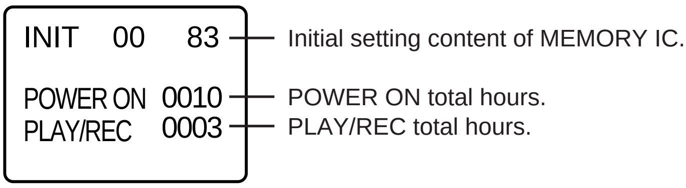
■ : Clean
● : Replace

CONFIRMATION OF USING HOURS

POWER ON total hours and PLAY/REC total hours can be checked on the screen.
Total hours are displayed in 16 system of notation.

NOTE: The confirmation of using hours will not be possible if clock has been set. To reset clock, either unplug AC cord and allow at least 30 minutes before Power On or alternatively, discharge backup capacitor.

1. Set the VOLUME to minimum.
2. While holding down VOLUME button on front cabinet, press key 6 on remote control for more than 2 seconds.
3. After the confirmation of using hours, turn off the power.



(16 x 16 x 16 x thousands digit value) + (16 x 16 x hundreds digit value) + (16 x tens digit value) + (ones digit value)

PREVENTIVE CHECKS AND SERVICE INTERVALS

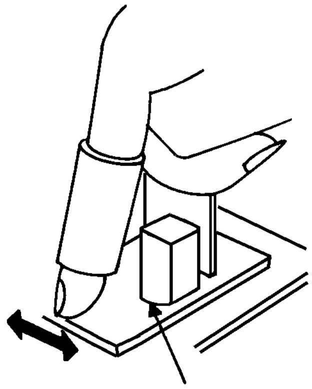
CLEANING

NOTE

After cleaning the heads with isopropyl alcohol, do not run a tape until the heads dry completely. If the heads are not completely dry and alcohol gets on the tape, damage may occur.

1. AUDIO CONTROL HEAD

Wrap a piece of chamois around your finger. Dip it in isopropyl alcohol and clean the audio control head by wiping it horizontally. Clean the full erase head in the same manner. **(Refer to the figure below.)**



Audio Control Head

2. TAPE RUNNING SYSTEM

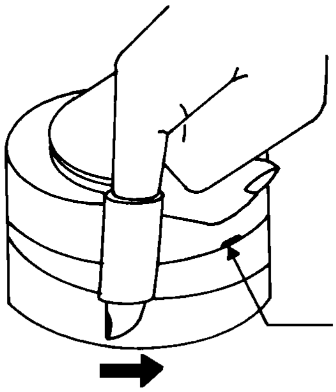
When cleaning the tape transport system, use the gauze moistened with isopropyl alcohol.

3. CYLINDER

Wrap a piece of chamois around your finger. Dip it in isopropyl alcohol. Hold it to the cylinder head softly. Turn the cylinder head counterclockwise to clean it (in the direction of the arrow). **(Refer to the figure below.)**

NOTE

Do not exert force against the cylinder head. Do not move the chamois upward or downward on the head.
Use the chamois one by one.



Cylinder Head

NOTE FOR THE REPLACING OF MEMORY IC

If a service repair is undertaken where it has been required to change the MEMORY IC, the following steps should be taken to ensure correct data settings while making reference to TABLE 1.

NOTE: Initial Data setting will not be possible if clock has been set. To reset clock, either unplug AC cord and allow at least 30 minutes before Power On or alternatively, discharge backup capacitor.

INI	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9	+A	+B	+C	+D	+E	+F
00	5C	1E	07	81	EA	80	15	07	C4	81	1A	F1	67	6F	18	41
10	A6	05	63	65	66	41	1E	3B	2A	17	1D	1B	3A	0F	4B	20
20	77	63	64	65	64	0A	40	F5	76	A0	59	5F	05	F0	00	F0
30	5F	05	F0	05	F3	EF	90	6C	38	21	15	28	A0	C4	20	08
40	BF	10	1B	B5	C3	43	7D	8B	8B	0C	3A	60	47	03	06	15
50	20	22	24	26	28	2A	2C	2E	30	32	34	36	38	3A	3C	3E
60	40	42	44	46	49	4C	4F	52	55	58	5B	5E	61	64	67	6A
70	6D	70	73	76	79	7C	7F	82	85	88	8B	8E	91	94	97	9A
80	9D	A0	A5	AA	AF	B4	B9	BE	C3	C8	CD	D2	D9	E1	F0	FF

Table 1

1. Enter DATA SET mode by setting VOLUME to minimum.
2. While holding down VOLUME button on front cabinet, press key 6 on remote control for more than 2 seconds. ADDRESS and DATA should appear as FIG 1.

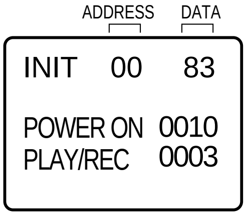


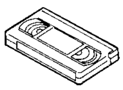
Fig. 1

3. ADDRESS is now selected and should "blink". Using the PLAY or STOP button on the remote, step through the ADDRESS until required ADDRESS to be changed is reached.
4. Press ENTER to select DATA. When DATA is selected, it will "blink".
5. Again, step through the DATA using PLAY or STOP button until required DATA value has been selected.
6. Pressing ENTER will take you back to ADDRESS for further selection if necessary.
7. Repeat steps 3 to 6 until all data has been checked.
8. When satisfied correct DATA has been entered, turn POWER off (return to STANDBY MODE) to finish DATA input.

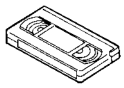
The unit will now have the correct DATA for the new MEMORY IC.

SERVICING FIXTURES AND TOOLS

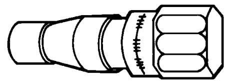
(For 2 head 1 speed model, 4 head model)
VHS Alignment Tape
JG001E (TTV-P2)
JG001F (TTV-P1L)
JG001U (VP$_1$ S-X6^3)



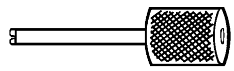
(For 2 head 2 speed model)
VHS Alignment Tape
JG001C (TTV-P2)
JG001D (TTV-P1L)
JG001V (VP$_2$ S-X6^3)



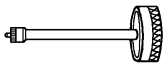
JG002B Adapter
JG002E Dial Torque Gauge (10~90gf•cm)
JG002F (60~600gf•cm)



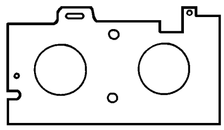
JG005 Post Adjustment Screwdriver
Part No. SV-TG0-030-000 (small)



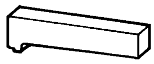
JG153 X Value Adjustment Screwdriver



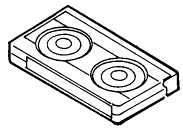
JG022 Master Plane



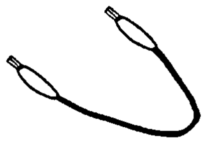
JG024A Reel Disk Height Adjustment Jig



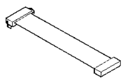
JG100A Torque Tape (VHT-063)



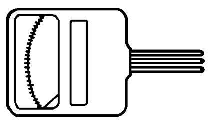
JG154 Cable
Parts No. SJ-G15-400-000



JG162A Cable (8 Pins)
Parts No. SJ-G16-2A0-000
JG162G Cable (14 Pins)
Parts No. SJ-G16-2G0-000
JG162Y Cable (5 Pins)
Parts No. SJ-G16-2Y0-000



Tentelometer

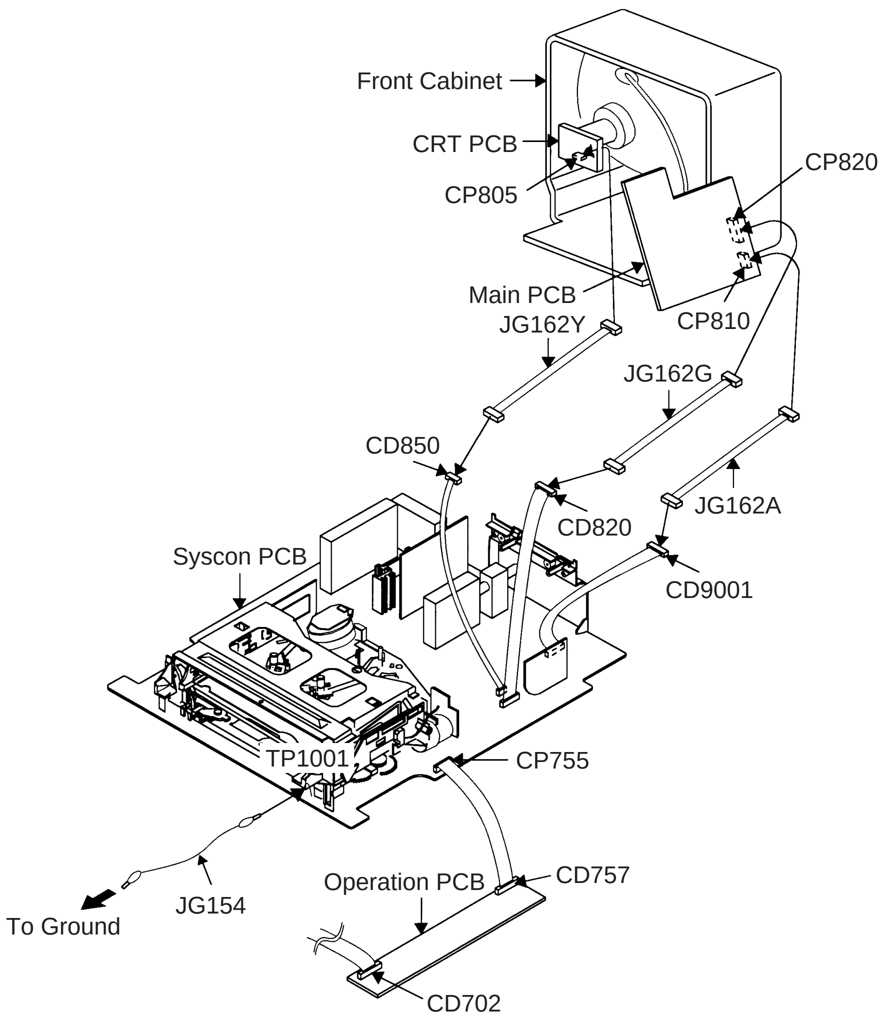


Part No.	Remarks
JG001E	Stair Steps, 7KHz **(For 2 head 1 speed model, 4 head model)**
JG001F	Color Bar, 1KHz **(For 2 head 1 speed model, 4 head model)**
JG001U	X Value Adjustment **(For 2 head 1 speed model, 4 head model)**
JG001C	Stair Steps, 7KHz **(For 2 head 2 speed model)**
JG001D	Color Bar, 1KHz **(For 2 head 2 speed model)**
JG001V	X Value Adjustment **(For 2 head 2 speed model)**
JG002B	VSR Torque, Brake Torque (S Reel/T Reel Ass'y)
JG002E	Brake Torque (T Reel Ass'y)
JG002F	VSR Torque, Brake Torque (S Reel)
JG005	Guide Roller Adjustment
JG153	X Value Adjustment
JG022/JG024A	Reel Disk Height Adjustment
JG100A	Playback Torque, Back Tension Torque During Playback
JG154	Used to connect the test point of SERVICE and GROUND
JG162A	Used to connect the Sub Power PCB and Main PCB
JG162G	Used to connect the Syscon PCB and Main PCB
JG162Y	Used to connect the Syscon PCB and CRT PCB

PREPARATION FOR SERVICING

How to use the Servicing Fixture

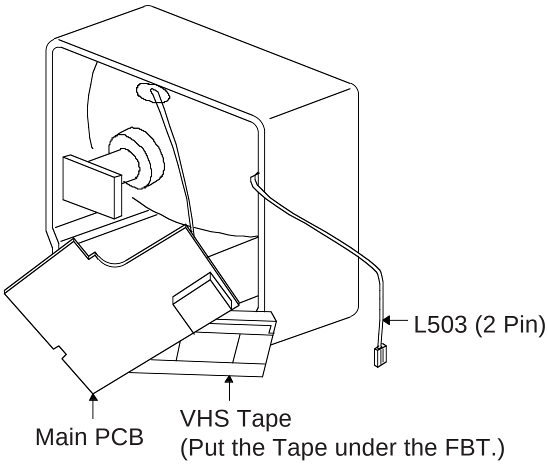
1. Unplug the connector CP353, CP755 and CP4202 then remove the TV/VCR Block from the set.
2. Unplug the connector CP810, CP820 and CP805, then remove the Main PCB from the VCR Block.
3. Connect as shown in the below figure using the Service Fixture.
   - Connect the Sub Power PCB and Main PCB with the cable JG162A.
   - Connect the Syscon PCB to the Main PCB with the cable JG162G.
   - Connect the Syscon PCB to the CRT PCB with the cable JG162Y.
4. Remove the Operation PCB from the set, then connect it with the Syscon PCB.
   If necessary, connect CD702. (Front A/V Jack Input Terminal)
5. Short circuit between **TP1001** and **Ground** with the cable JG154.
   (Refer to MAJOR COMPONENTS LOCATION GUIDE)
   The EOT, BOT and Reel Sensor do not work at this moment.
6. At that time, the STOP/EJECT button is available to insert and eject the Cassette Tape.



PREPARATION FOR SERVICING

Servicing Position for Main PCB (In case of needing to check on Main PCB)

• It's possible to get the Servicing Position without the extension Jig if you arrange the unit as shown below.
(But L503 connection can not be done, Degauss circuit will not operate.)



• Be careful for the short circuit.

VCR TEST TAPE INTERCHANGEABILITY TABLE

There are two types of the new alignment tape CH-1B (for NTSC) and CH-2 (for PAL). On each tape four signals (1) - (4) are recorded for the times and in the order shown below.

(1) : 8min. ---> (2) : 2min. ---> (3) : 5min. ---> (4) : 5min.

The TTV-MP1 (for M-PAL), TTV-MS1 (for MESECAM) and TTV-S1 (for SECAM) alignment tapes have the same contents as the previous tapes.

Method	Now in use TYPE		New TYPE		Application
	Model	Contents*1	Model	Contents*1	
NTSC	TTV-N1	NTSC, Color, 1kHz, SP	CH-1B(2)	NTSC, Stairsteps, 1kHz, SP	PB-Y Level/General electrical ADJ. Head ACE Height/Tilt ADJ.
	TTV-N1E	NTSC, Color, 1kHz, EP	CH-1B(4) *2	NTSC, Color, 1kHz, EP	Switching position ADJ.
	TTV-N2	NTSC, Stairsteps, 7kHz, SP	CH-1B(1)	NTSC, Stairsteps, 7kHz, SP	Head ACE Azimuth ADJ.
	TTV-N12 (SCV-1998)	NTSC, Color, 1kHz, SP	CH-1B(4)	NTSC, Color, 1kHz, EP	FM envelope ADJ. X-Value ADJ.
	TTV-N7A	NTSC, Stairsteps, 1kHz, SP, HiFi 400Hz	CH-1B(3)	NTSC, Color, No sound SP, HiFi 400Hz	HiFi Audio PB Level ADJ.
PAL	TTV-P1	PAL, Color, 1kHz, SP	CH-2(2) *3	PAL, Stairsteps, 1kHz, SP	Switching position ADJ. PB-Y Level/General electrical ADJ. Head ACE Height/Tilt ADJ.
	TTV-P1L	PAL, Color, 1kHz, LP	CH-2(4)	PAL, Color, 1kHz, LP	Switching position. (LP Model) FM Envelope ADJ. (LP Model) X-Value ADJ. (LP Model)
	TTV-P2	PAL, Stairsteps, 6kHz, SP	CH-2(1)	PAL, Stairsteps, 6kHz, SP	Head ACE Azimuth ADJ. FM Envelope ADJ. (SP Model) X-Value ADJ. (SP Model)
	TTV-P7	PAL, Stairsteps, 1kHZ, SP, HiFi, 1kHz	CH-2(3)	PAL, Color, No sound SP, HiFi 400Hz	HiFi Audio PB Level ADJ.
	TTV-P16	PAL, Color, 400Hz, SP, HiFi 1kHz	No Changed.		FM Filter ADJ.

*1. Described in the order of color format. Video signal. Linear audio. Tape speed and Hi-Fi audio.
*2. Use CH-1B (1) - (3) with models used exclusively in the SP mode.
*3. Use CH-2 (3) and (4) when it is necessary to observe the chroma signal.

MECHANICAL ADJUSTMENTS

1. CONFIRMATION AND ADJUSTMENT

Read the following NOTES before starting work.

- Place an object which weighs between 450g~500g on the Cassette Tape to keep it steady when you want to make the tape run without the Cassette Holder. (Do not place an object which weighs over 500g.)
- When you activate the deck without the Cassette Holder, short circuit between **TP1001** and **GND**. **(Refer to ELECTRICAL ADJUSTMENT PARTS LOCATION GUIDE)** In this condition the BOT/EOT/Reel Sensor will not function.

1-1: CONFIRMATION AND ADJUSTMENT OF REEL DISK HEIGHT

1. Turn on the power and set to the STOP mode.
2. Set the master plane **(JG022)** and reel disk height adjustment jig **(JG024A)** on the mechanism framework, taking care not to scratch the drum, as shown in **Fig. 1-1-A**.
3. Confirm that "A" of the reel disk is lower than "B" of the reel disk height adjustment jig **(JG024A)**, and is higher than "C". If it is not enough height, adjust to 10(+0.2, -0) mm with the height adjustment washer.
4. Adjust the other reel in the same way.

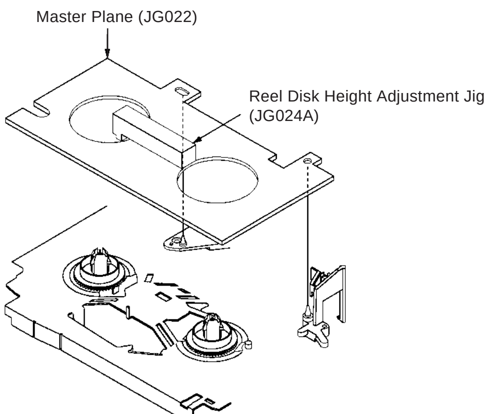


Fig. 1-1-A

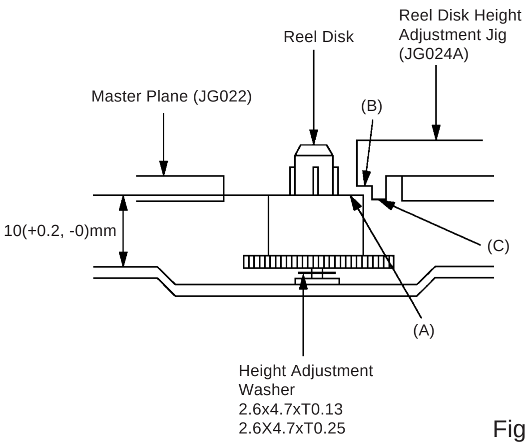


Fig. 1-1-B

1-2: CONFIRMATION AND ADJUSTMENT OF TENSION POST POSITION

1. Set to the PLAY mode.
2. Adjust the Tension Adjust until the edge of the Tension Arm is positioning within 0.5mm range from the standard line center of Main Chassis.
   After this adjustment, confirm that the cut position is located in "A" area as shown in **Fig. 1-2-B**. If it is located in "B" area, adjust again.
3. While turning the S Reel clockwise, confirm that the edge of the Tension Arm is located in the position described above.

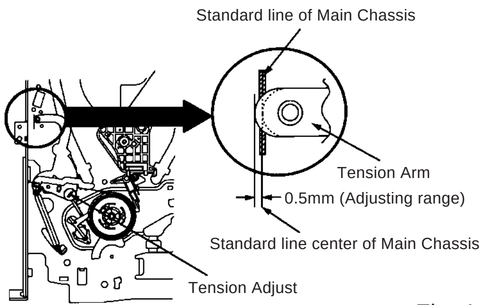


Fig. 1-2-A

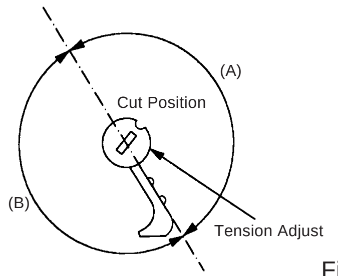


Fig. 1-2-B

1-3: CONFIRMATION OF PLAYBACK TORQUE AND BACK TENSION TORQUE DURING PLAYBACK

1. Load a video tape (E-180) recorded in standard speed mode. Set the unit to the PLAY mode.
2. Install the tentelometer as shown in **Fig. 1-3**. Confirm that the meter indicates 20 ± 2gf in the beginning of playback.

• USING A CASSETTE TYPE TORQUE TAPE **(JG100A)**

1. After confirmation and adjustment of Tension Post position **(Refer to item 1-2)**, load the cassette type torque tape **(JG100A)** and set to the PLAY mode.
2. Confirm that the right meter of the torque tape indicates 60~110gf•cm during playback in SP mode.
3. Confirm that the left meter of the torque tape indicates 25~40gf•cm during playback in SP mode.

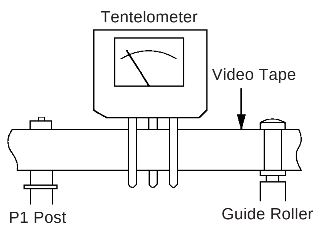


Fig. 1-3

MECHANICAL ADJUSTMENTS

1-4: CONFIRMATION OF VSR TORQUE

1. Operate within 4~5 seconds after the reel disk begins to turn.
2. Install the Torque Gauge **(JG002F)** and Adapter **(JG002B)** on the S Reel. Set to the Rewind mode. **(Refer to Fig.1-4)**
3. Then, confirm that it indicates 120~180gf•cm.

NOTE

Install the Torque Gauge on the reel disk firmly. Press the REW button to turn the reel disk.

1-5: CONFIRMATION OF REEL BRAKE TORQUE

(S Reel Brake) **(Refer to Fig. 1-4)**

1. Set to the STOP mode.
2. Move the Idler Ass'y from the S Reel.
3. Install the Torque Gauge **(JG002F)** and Adapter **(JG002B)** on the S Reel. Turn the Torque Gauge **(JG002F)** clockwise.
4. Then, confirm that it indicates 60~100gf•cm.

(T Reel Brake) **(Refer to Fig. 1-4)**

1. Set to the STOP mode.
2. Move the Idler Ass'y from the T Reel.
3. Install the Torque Gauge **(JG002E)** and Adapter **(JG002B)** on the T reel. Turn the Torque Gauge **(JG002E)** counterclockwise.
4. Then, confirm that it indicates 45~70gf•cm.

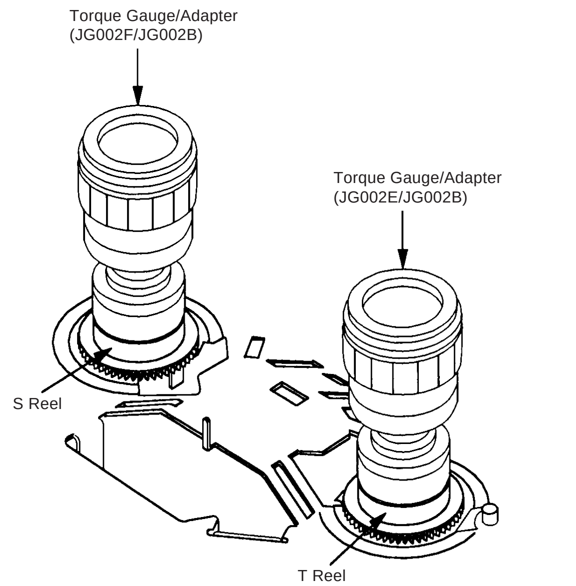


Fig. 1-4

NOTE

If the torque is out of the range, replace the following parts.

Check item	Replacement Part
1-4	Idler Ass'y/Clutch Ass'y
1-5	T Brake Spring/Tension Spring

2. CONFIRMATION AND ADJUSTMENT OF TAPE RUNNING MECHANISM

Tape Running Mechanism is adjusted precisely at the factory. Adjustment is not necessary as usual. When you replace the parts of the tape running mechanism because of long term usage or failure, the confirmation and adjustment are necessary.

2-1: GUIDE ROLLER

1. Playback the VHS Alignment Tape **(JG001C or JG001E)**. **(Refer to SERVICING FIXTURE AND TOOLS)**
2. Connect CH-1 of the oscilloscope to **TP4002 (Envelope)** and CH-2 to **TP4001 (SW Pulse)**.
3. Press and hold the Tracking-Auto button on the remote control more than 2 seconds to set tracking to center.
4. Trigger with SW Pulse and observe the envelope. **(Refer to Fig. 2-1-A)**
5. When observing the envelope, adjust the Adjusting Driver **(JG005)** slightly until the envelope will be flat. Even if you press the Tracking Button, adjust so that flatness is not moved so much.
6. Adjust so that the A : B ratio is better than 3 : 2 as shown in **Fig. 2-1-B**, even if you press the Tracking Button to move the envelope (The envelope waveform will begin to decrease when you press the Tracking Button).
7. Adjust the PG shifter during playback. **(Refer to the ELECTRICAL ADJUSTMENTS)**

NOTE

After adjustment, confirm and adjust A/C head. **(Refer to item 2-2)**

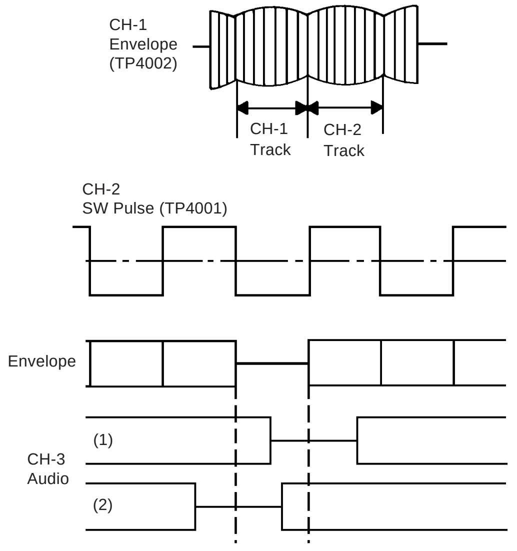


Fig. 2-1-A

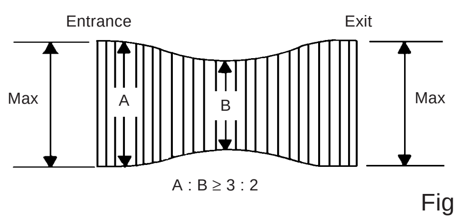


Fig. 2-1-B

MECHANICAL ADJUSTMENTS

2-2: CONFIRMATION AND ADJUSTMENT OF AUDIO/ CONTROL HEAD

When the Tape Running Mechanism does not work well, adjust the following items.

1. Playback the VHS Alignment Tape **(JG001C or JG001E)**. **(Refer to SERVICING FIXTURE AND TOOLS)**
2. Confirm that the reflected picture of stamp mark is appeared on the tape prior to P4 Post as shown in **Fig. 2-2-A**.
   a) When the reflected picture is distorted, turn the screw ① clockwise until the distortion is disappeared.
   b) When the reflected picture is not distorted, turn the screw ① counterclockwise until little distortion is appeared, then adjust the a).
3. Turn the screw ② to set the audio level to maximum.
4. Confirm that the bottom of the Audio/ Control Head and the bottom of the tape is shown in **Fig. 2-2-C**.
   c) When the height is not correct, turn the screw ③ to adjust the height. Then, adjust the 1~3 again.

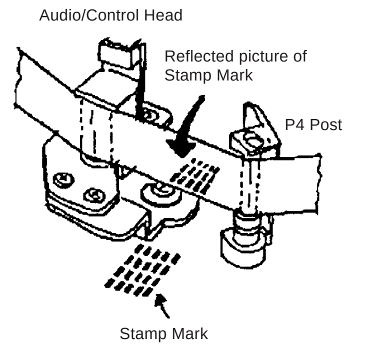


Fig. 2-2-A

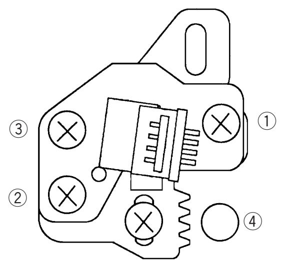


Fig. 2-2-B

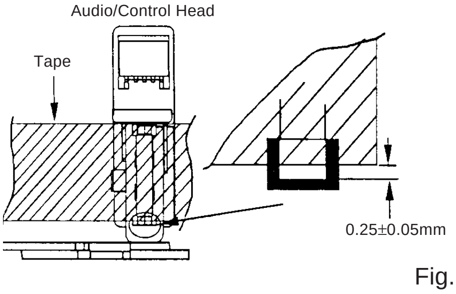


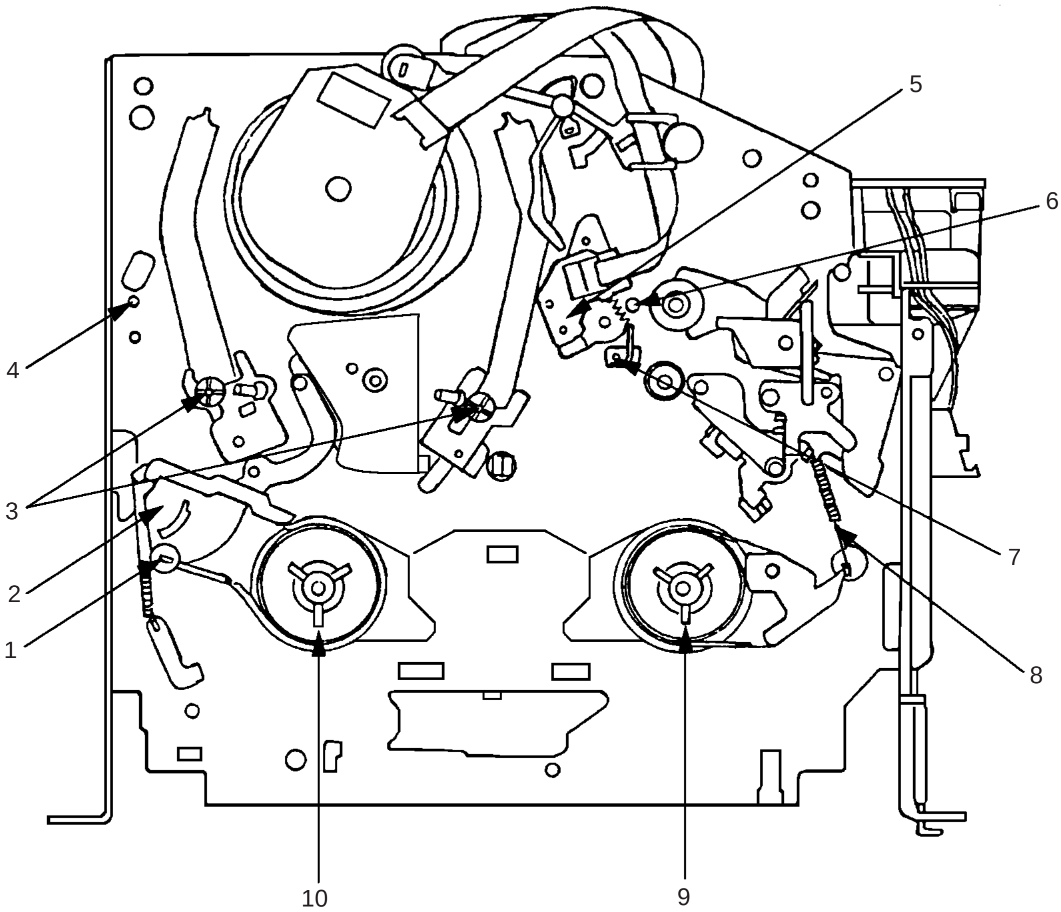
Fig. 2-2-C

2-3: TAPE RUNNING ADJUSTMENT (X VALUE ADJUSTMENT)

1. Confirm and adjust the height of the Reel Disk. **(Refer to item 1-1)**
2. Confirm and adjust the position of the Tension Post. **(Refer to item 1-2)**
3. Adjust the Guide Roller. **(Refer to item 2-1)**
4. Confirm and adjust the Audio/Control Head. **(Refer to item 2-2)**
5. Connect CH-1 of the oscilloscope to **TP4002**, CH-2 to **TP4001** and CH-3 to **HOT side of Audio Out Jack**.
6. Playback the VHS Alignment Tape **(JG001U or JG001V)**. **(Refer to SERVICING FIXTURE AND TOOLS)**
7. Press and hold the Tracking-Auto button on the remote control more than 2 seconds to set tracking to center.
8. Set the X Value adjustment driver **(JG153)** to the ④ of **Fig. 2-2-B**. Adjust X value so that the envelope waveform output becomes maximum. Check if the relation between Audio and Envelope waveform becomes (1) or (2) of **Fig. 2-1-A**.

MECHANICAL ADJUSTMENTS

3. MECHANISM ADJUSTMENT PARTS LOCATION GUIDE



1. Tension Adjust	6. X value adjustment driver hole
2. Tension Arm	7. P4 Post
3. Guide Roller	8. T Brake Spring
4. P1 Post	9. T Reel
5. Audio/Control Head	10. S Reel

ELECTRICAL ADJUSTMENTS

1. ADJUSTMENT PROCEDURE

Read and perform these adjustments when repairing the circuits or replacing electrical parts or PCB assemblies.

CAUTION

When replacing IC's or transistors, use only specified silicon grease **(G746)**.
(To prevent the damage to IC's and transistors.)

On-Screen Display Adjustment

1. Unplug the AC plug for more than 30 minutes to set the clock to the non-setting state. (To release the Back-Up immediately, take the short circuit between **C1003** and **GND** at the Power Off.) Then, set the volume level to minimum.
2. Press the VOL. DOWN button on the set and the channel button **(9)** on the remote control for more than 2 seconds to display adjustment mode on the screen as shown in **Fig. 1-1**.

NOTE

Use the channel buttons **(1-8)** on the remote control to select the options shown in **Fig. 1-1.**
Press the channel button **(0)** or MENU button on the remote control to end the adjustments.

1. H/V
2. AKB
3. COLOR TEMP
4. PICTURE
5. OTHERS
6. TEST PATTERN
7.
8. 0. END

"The adjustment item 3 is not used for this model."

Fig. 1-1

2. BASIC ADJUSTMENTS (VCR SECTION)

2-1: PG SHIFTER

1. Connect CH-1 on the oscilloscope to **TP4001** and CH-2 to **TP4501**.
2. Playback the alignment tape. **(JG001D)**
3. Press and hold the Tracking-Auto button on the remote control more than 2 seconds to set tracking to center.
4. Press the VOL. DOWN button on the set and the channel button **(3)** on the remote control simultaneously until the indicator REC disappears. If the indicator REC disappears, adjustment is completed.

(If the above adjustments doesn't work well:)

5. Press the VOL. DOWN button on the set and the channel button **(3)** on the remote control simultaneously until the indicator REC disappears.
6. When the REC indicator is blinking, press both VOL. DOWN button on the set and the channel button **(4)** on the remote control simultaneously and adjust the Tracking +/- button until the arising to the down of Head Switching Pulse becomes 6.5 ± 0.5H.
(Refer to Fig. 2-1-A, B)
7. Stop the alignment tape.

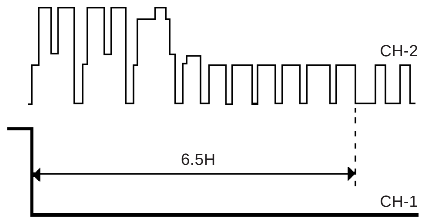


Fig. 2-1-A

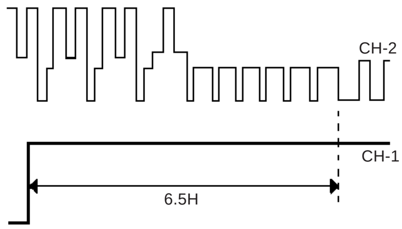


Fig. 2-1-B

2-2: VCO

(REC TUNER)

1. Place the set with Aging Test for more than 10 minutes.
2. Connect the oscillator (39.5MHz) to **TP1002**.
3. Connect the digital voltmeter between the **pin 8 of CP603** and the **pin 1 (GND) of CP603**.
4. Adjust the **L6006** until the digital voltmeter is 2.4 ± 0.1V.

(MONITOR TUNER)

1. Connect the oscillator (39.5MHz) to **TUNER IF PIN**.
2. Connect the digital voltmeter between the **pin 47 of IC601** and the **GND**.
3. Adjust the **L608** until the digital voltmeter is 3.8 ± 0.1V.

2-3: RF AGC DELAY

(MONITOR TUNER)

1. Receive the UHF (80dB).
2. Connect the digital voltmeter between the **pin 5 of CP603** and the **pin 1 (GND) of CP603**.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(5)** on the remote control to select "OTHERS". The **Fig. 2-2** appears on the display.
4. Press the channel button **(1)** on the remote control to select "RF AGC DELAY".
5. Press the PLAY or STOP button on the remote control until the digital voltmeter is 1.7 ± 0.1V.

(REC TUNER)

1. Receive the UHF (80dB).
2. Connect the digital voltmeter between the **pin 7 of CP603** and the **pin 1 (GND) of CP603**.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(5)** on the remote control to select "OTHERS". The **Fig. 2-2** appears on the display.
4. Press the channel button **(7)** on the remote control to select "REC AGC DELAY".
5. Press the PLAY or STOP button on the remote control until the digital voltmeter is 1.7 ± 0.1V.

ELECTRICAL ADJUSTMENTS

1. RF AGC DELAY
2. VIDEO LEVEL
3. FM LEVEL
4. OSD H
5. CUT OFF
6. (VOL TEST)
7. REC AGC DELAY
8. 0. RETURN

"The adjustment items 6 and 8 is not used for this model."

Fig. 2-2

2-4: 21 PIN AUDIO OUT

1. Receive the color bar pattern.
2. Connect the AC voltmeter to **pin3 of J4501**.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(5)** on the remote control to select "OTHERS". The **Fig. 2-2** appears on the display.
4. Press the channel button **(3)** on the remote control to select "FM LEVEL".
5. Press the PLAY or STOP button on the remote control until the AC voltmeter is 550 ± 2.5dbm.

2-5: 21 PIN VIDEO OUT

1. Receive the color bar pattern.
2. Connect the synchro scope to **TP4501**.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(5)** on the remote control to select "OTHERS". The **Fig. 2-2** appears on the display.
4. Press the channel button **(2)** on the remote control to select "VIDEO LEVEL".
5. Press the PLAY or STOP button on the remote control until the synchro scope is 1.0 ± 0.15V.

(TV SECTION)

2-6: CONSTANT VOLTAGE

1. Using the remote control, set the brightness and contrast to normal position.
2. Connect the digital voltmeter to **TP401**.
3. Set condition is AV MODE without signal.
4. Adjust the **VR502** until the digital voltmeter is 110 ± 0.5V.

2-7: CUT OFF

1. Place the set with Aging Test for more than 15 minutes.
2. Set condition is AV MODE without signal.
3. Using the remote control, set the brightness and contrast to normal position.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(5)** on the remote control to select "OTHERS". The **Fig. 2-2** appears on the display.
5. Press the channel button **(5)** on the remote control to select "CUT OFF".
6. Adjust the **Screen Volume** until a dim raster is obtained.

2-8: WHITE BALANCE

NOTE: Adjust after performing CUT OFF adjustment.

1. Place the set with Aging Test for more than 15 minutes.
2. Receive the white 100% signal from the Pattern Generator.
3. Using the remote control, set the brightness and contrast to normal position.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(2)** on the remote control to select "AKB". The **Fig. 2-3** appears on the display.
5. Press the channel button **(2)** on the remote control to select the "R.BIAS".
6. Using the PLAY or STOP button on the remote control, adjust the R.BIAS.
7. Press the CH. UP/DOWN button on the remote control to select the "G.BIAS", "B.BIAS", "R.DRIVE", "G.DRIVE" or "B.DRIVE".
8. Using the PLAY or STOP button on the remote control, adjust the G.BIAS, B.BIAS, R.DRIVE or B.DRIVE.
9. Perform the above adjustments 7 and 8 until the white color is looked like a white.

1. AKB AUTO
2. R.BIAS
3. G.BIAS
4. B.BIAS
5. R.DRIVE
6. G.DRIVE
7. B.DRIVE
8. AGC AUTO 0. RETURN

"The adjustment items 1 and 8 is not used for this model."

Fig. 2-3

2-9: FOCUS

1. Receive a broadcast.
2. Turn the Focus Volume fully counterclockwise once.
3. Adjust the **Focus Volume** until picture is distinct.

2-10: HORIZONTAL PHASE

1. Receive the center cross signal from the Pattern Generator.
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(1)** on the remote control to select "H/V". The **Fig. 2-4** appears on the display.
4. Press the channel button **(1)** on the remote control to select "H.PHASE".
5. Press the PLAY or STOP button on the remote control until the right and left screen size of the vertical line becomes the same.

1. H.PHASE
2. H.BLK
3. V.SIZE 50/60
4. V.POSI 50/60
5. V.LIN 50/60
6. V.SC 50/60
7. V.COMP
8. (H. FREQ) 0. RETURN

"The adjustment item 8 is not used for this model."

Fig. 2-4

ELECTRICAL ADJUSTMENTS

2-11: HORIZONTAL SIZE

NOTE: Adjust after performing adjustments in section 2-10.

Measurement Equipment Maker: SHIBASOKU Co. Limited
Measurement Equipment Model No.: DIGITAL TEST PATTERN GENERATOR 588

1. Receive the monoscope pattern.
2. Adjust the **VR401** until the SHIFT quantity of the OVER SCAN on right and left becomes 8 ± 2%.

(Simple Adjustments)

1. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(6)** on the remote control to select "TEST PATTERN". The **Fig. 2-5** appears on the display.
2. Press the channel button **(6)** on the remote control to select "CROSS (60)".
3. Adjust the **VR401** until the right vertical line of the pattern becomes fit to the right end.

1. EXTERNAL
2. BLACK
3. WHITE (100)
4. WHITE (60)
5. CROSS (100)
6. CROSS (60)
7.
8. 0. RETURN

"The adjustment items 1, 2, 3, 4 and 5 are not used for this model."

Fig. 2-5

2-12: VERTICAL LINEARITY

NOTE: Adjust after performing adjustments in section 2-11.

1. Receive the cross hatch signal from the Pattern Generator.
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(1)** on the remote control to select "H/V". The **Fig. 2-4** appears on the display.
4. Press the channel button **(5)** on the remote control to select "V. LIN 50/60".
5. Check if the step No. of VERTICAL POSITION is "31".
6. Adjust the **VR404** until the SHIFT quantity of the OVER SCAN on upside and downside becomes minimum.
7. Receive the cross hatch signal of NTSC. (Audio Video Input)
8. Press the AV button on the remote control to set to the AV mode.
9. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(1)** on the remote control to select "H/V". The **Fig. 2-4** appears on the display.
10. Press the channel button **(5)** on the remote control to select "V. LIN 50/60".
11. Press the PLAY or STOP button on the remote control until the SHIFT quantity of the OVER SCAN on upside and downside becomes minimum.

2-13: VERTICAL POSITION

NOTE: Adjust after performing adjustments in section 2-12.

1. Receive the center cross signal from the Pattern Generator.
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(1)** on the remote control to select "H/V". The **Fig. 2-4** appears on the display.
4. Press the channel button **(4)** on the remote control to select "V. POSI 50/60".
5. Check if the step No. of VERTICAL POSITION is "63".
6. Adjust the **VR403** until the horizontal line becomes fit to the notch of the shadow mask.
7. Receive the center cross signal of NTSC. (Audio Video Input)
8. Press the AV button on the remote control to set to the AV mode. Then perform the above adjustments 2~5.

2-14: VERTICAL SIZE

NOTE: Adjust after performing adjustments in section 2-13.

1. Receive the cross hatch signal from the Pattern Generator.
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(1)** on the remote control to select "H/V". The **Fig. 2-4** appears on the display.
4. Press the channel button **(3)** on the remote control to select "V. SIZE 50/60".
5. Press the PLAY or STOP button on the remote control until the rectangle on the center of the screen becomes square.
6. Receive a broadcast and check if the picture is normal.
7. Receive the cross hatch signal of NTSC. (Audio Video Input)
8. Press the AV button on the remote control to set to the AV mode. Then perform the above adjustments 2~5.

2-15: OSD HORIZONTAL

1. Using the remote control, set the brightness and contrast to normal position.
2. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(5)** on the remote control to select "OTHERS". The **Fig. 2-2** appears on the display.
3. Press the channel button **(4)** on the remote control to select "OSD H".
4. Press the PLAY or STOP button on the remote control until the difference of A and B becomes minimum. **(Refer to Fig. 2-6)**

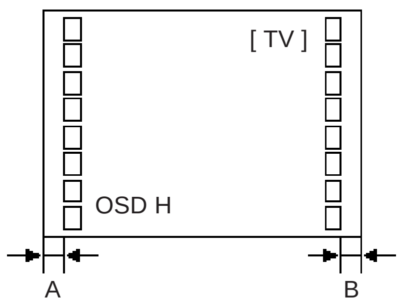


Fig. 2-6

ELECTRICAL ADJUSTMENTS

2-16: SUB BRIGHTNESS

1. Receive the black pattern*. (RF Input)
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(4)** on the remote control to select "PICTURE". The **Fig. 2-7** appears on the display.
4. Press the channel button **(1)** on the remote control to select "BRIGHT".
5. Press the VOL. UP/DOWN button on the remote control until the screen begin to shine.
6. Receive the black pattern*. (Audio Video Input)
7. Press the TV/VCR button on the remote control to set to the AV mode. Then perform the above adjustments 2~5.

*The Black Pattern means the whole black raster signal. Select the "RASTER" of the pattern generator, set to the OFF position for each R, G and B.

1. BRIGHT
2. CONTRAST
3. COLOUR
4. TINT
5. SHARPNESS
6. TEXT CONT
7.
8. 0. RETURN

Fig. 2-7

2-17: SUB CONTRAST

1. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(4)** on the remote control to select "PICTURE". The **Fig. 2-7** appears on the display.
2. Press the channel button **(2)** on the remote control to select "CONTRAST".
3. Press the PLAY or STOP button on the remote control until the contrast step No. becomes "88"
4. Press the AV button on the remote control to set to the AV mode.
5. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(4)** on the remote control to select "PICTURE". The **Fig. 2-7** appears on the display.
6. Press the channel button **(2)** on the remote control to select "CONTRAST".
7. Press the PLAY or STOP button on the remote control until the contrast step No. becomes "96"

2-18: SUB COLOR

1. Receive the color bar pattern. (RF Input)
2. Using the remote control, set the brightness, contrast and color to normal position.
3. Connect the synchro scope to **TP804**.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(4)** on the remote control to select "PICTURE". The **Fig. 2-7** appears on the display.
5. Press the channel button **(3)** on the remote control to select "COLOR".
6. Adjust the VOLTS RANGE VARIABLE knob of the oscilloscope until the range between white 100% and 0% is set to 5 scales on the screen of the oscilloscope.
7. Press the PLAY or STOP button on the remote control until the red color level is adjusted to 90% of the white level. **(Refer to Fig. 2-8)**
8. Receive the color bar pattern. (Audio Video Input)
9. Press the AV button on the remote control to set to the AV mode. Then perform the above adjustments 2~7.

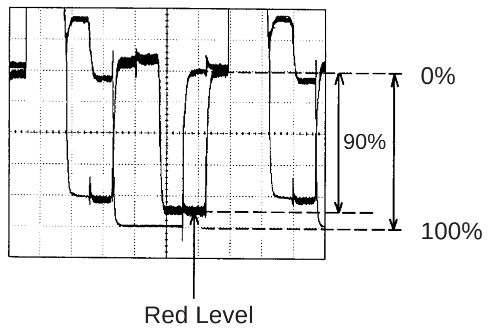


Fig. 2-8

2-19: SUB SHARPNESS

1. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(4)** on the remote control to select "PICTURE". The **Fig. 2-7** appears on the display.
2. Press the channel button **(5)** on the remote control to select "SHARPNESS".
3. Check if the step No. of SHARPNESS is "24".
4. Press the AV button on the remote control to set to the AV mode. Then perform the above adjustments 1~3.

2-20: TEXT CONTRAST

1. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(4)** on the remote control to select "PICTURE". The **Fig. 2-7** appears on the display.
2. Press the channel button **(6)** on the remote control to select "TEXT CONT".
3. Press the PLAY or STOP button on the remote control until the bar step is set to "0".

ELECTRICAL ADJUSTMENTS

2-21: V. S-CORRECTION (V. SC)

1. Receive the color bar pattern.
2. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(1)** on the remote control to select "H/V". The **Fig. 2-4** appears on the display.
3. Press the channel button **(6)** on the remote control to select "V. SC 50/60".
4. Check if the step No. of V. SC is "0".
5. Receive the color bar pattern of NTSC. (Audio Video Input)
6. Press the AV button on the remote control to set to the AV mode. Then perform the above adjustments 2~4.

2-22: PIN CUSHION (PCC)

1. Receive the color bar pattern.
2. Using the remote control, set the brightness and contrast to normal position.
3. Adjust the **VR402** until the right and left vertical line becomes straight.

2-23: H. BLK

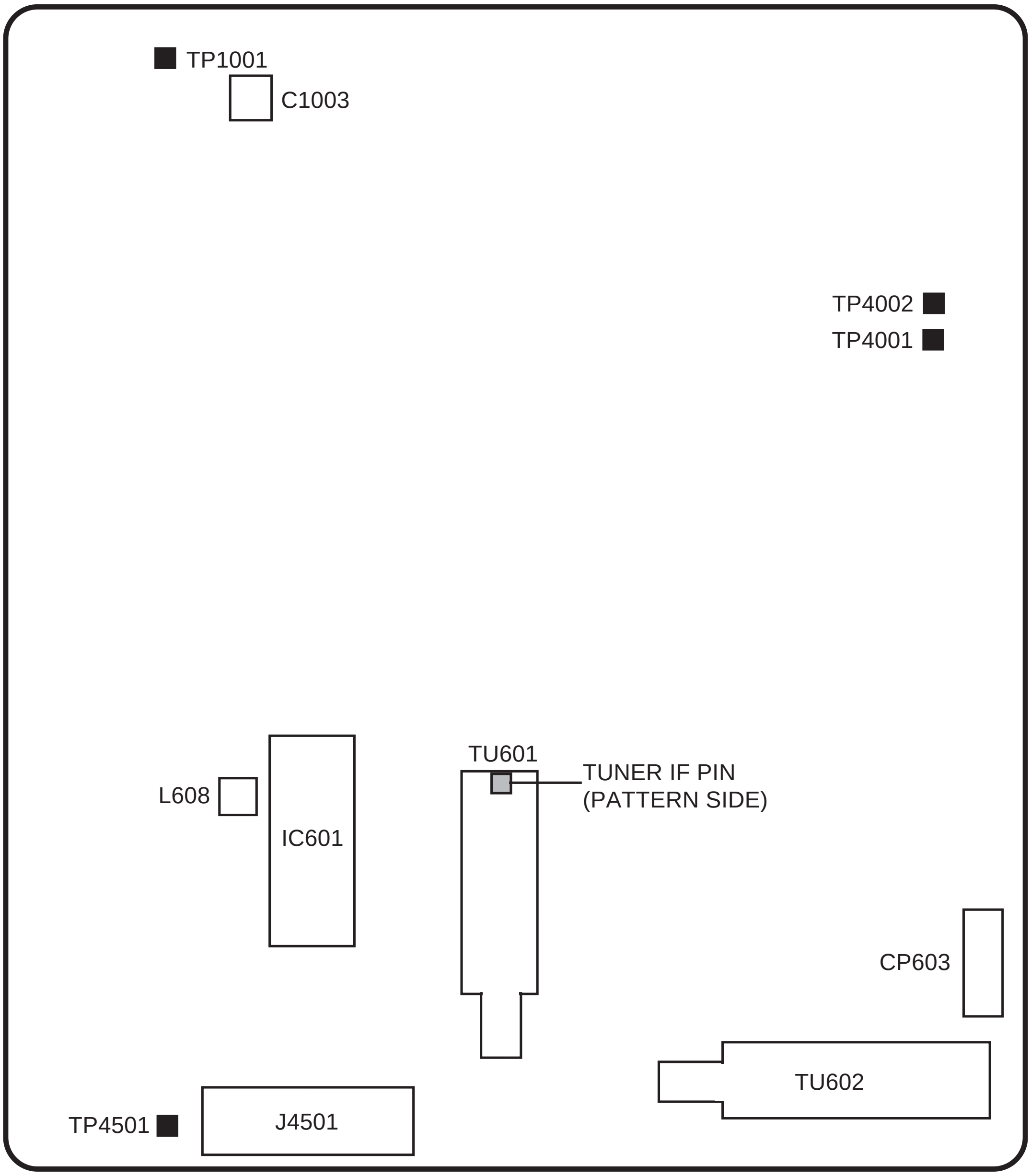
1. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(1)** on the remote control to select "H/V". The **Fig. 2-4** appears on the display.
2. Press the channel button **(2)** on the remote control to select "H.BLK".
3. Switch the R/L by using the ENTER button on the remote control and check if the H. BLK step No. becomes "R2, L4".

2-24: V. COMP

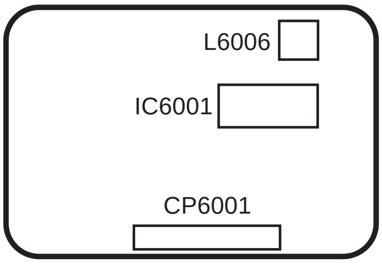
1. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(1)** on the remote control to select "H/V". The **Fig. 2-4** appears on the display.
2. Press the channel button **(7)** on the remote control to select "V.COMP".
3. Check if the step No. of V. COMP is "7".

ELECTRICAL ADJUSTMENTS

3. ELECTRICAL ADJUSTMENT PARTS LOCATION GUIDE (VCR SECTION)



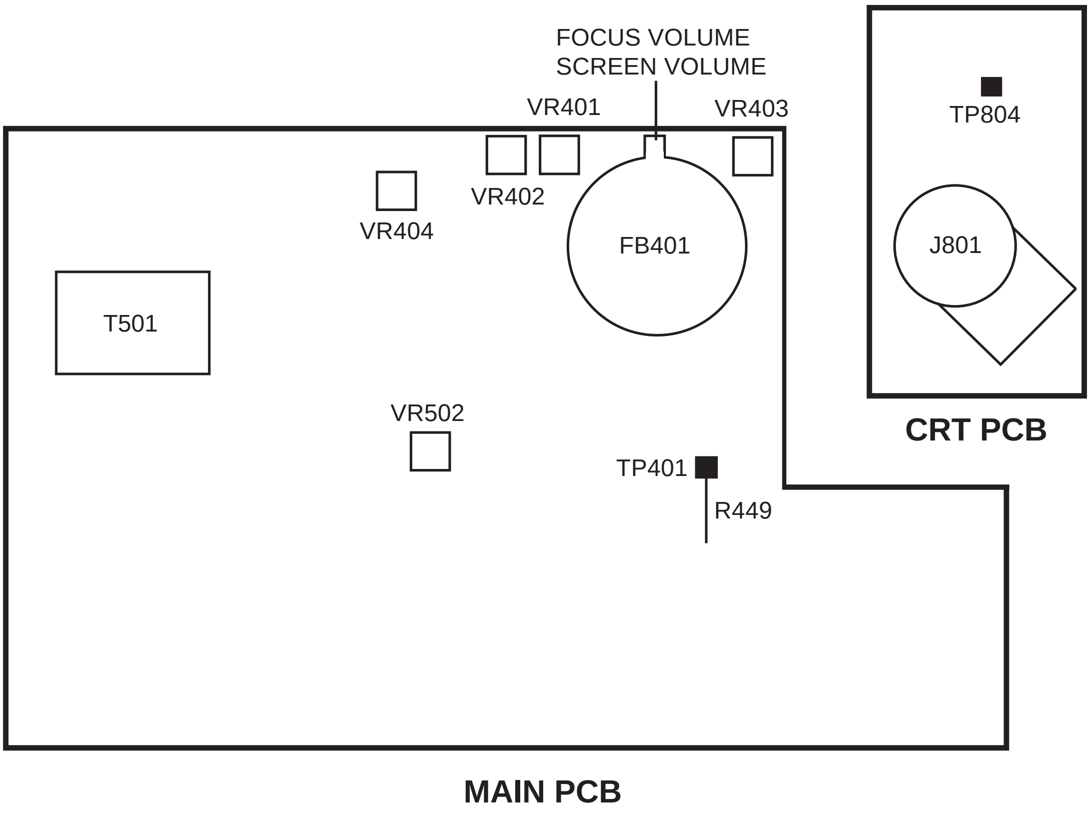
SYSCON PCB



IF PCB

ELECTRICAL ADJUSTMENTS

(TV SECTION)



ELECTRICAL ADJUSTMENTS

4. PURITY AND CONVERGENCE ADJUSTMENTS

NOTE

1. Turn the unit on and let it warm up for at least 30 minutes before performing the following adjustments.
2. Place the CRT surface facing east or west to reduce the terrestrial magnetism.
3. Turn ON the unit and demagnetize with a Degauss Coil.

4-1: STATIC CONVERGENCE (ROUGH ADJUSTMENT)

1. Tighten the screw for the magnet. Refer to the adjusted CRT for the position. **(Refer to Fig. 4-1)**
   If the deflection yoke and magnet are in one body, untighten the screw for the body.
2. Receive the green raster pattern from the color bar generator.
3. Slide the deflection yoke until it touches the funnel side of the CRT.
4. Adjust center of screen to green, with red and blue on the sides, using the pair of purity magnets.
5. Switch the color bar generator from the green raster pattern to the crosshatch pattern.
6. Combine red and blue of the 3 color crosshatch pattern on the center of the screen by adjusting the pair of 4 pole magnets.
7. Combine red/blue (magenta) and green by adjusting the pair of 6 pole magnets.
8. Adjust the crosshatch pattern to change to white by repeating steps 6 and 7.

4-2: PURITY

NOTE

Adjust after performing adjustments in section 4-1.

1. Receive the green raster pattern from color bar generator.
2. Adjust the pair of purity magnets to center the color on the screen.
   Adjust the pair of purity magnets so the color at the ends are equally wide.
3. Move the deflection yoke backward (to neck side) slowly, and stop it at the position when the whole screen is green.
4. Confirm red and blue color.
5. Adjust the slant of the deflection yoke while watching the screen, then tighten the fixing screw.

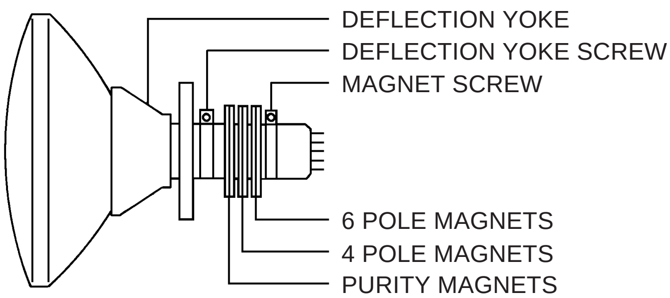


Fig. 4-1

4-3: STATIC CONVERGENCE

NOTE

Adjust after performing adjustments in section 4-2.

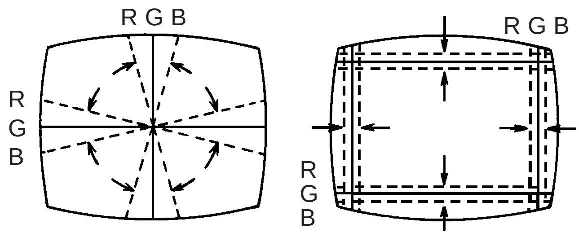
1. Receive the crosshatch pattern from the color bar generator.
2. Combine red and blue of the 3 color crosshatch pattern on the center of the screen by adjusting the pair of 4 pole magnets.
3. Combine red/blue (magenta) and green by adjusting the pair of 6 pole magnets.

4-4: DYNAMIC CONVERGENCE

NOTE

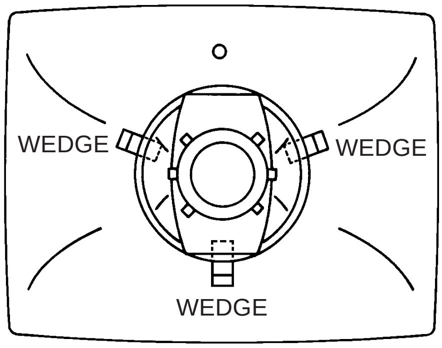
Adjust after performing adjustments in section 4-3.

1. Adjust the differences around the screen by moving the deflection yoke upward/downward and right/left. **(Refer to Fig. 4-2-a)**
2. Insert three wedges between the deflection yoke and CRT funnel to fix the deflection yoke. **(Refer to Fig. 4-2-b)**



UPWARD/DOWNWARD SLANT   RIGHT/LEFT SLANT

Fig. 4-2-a

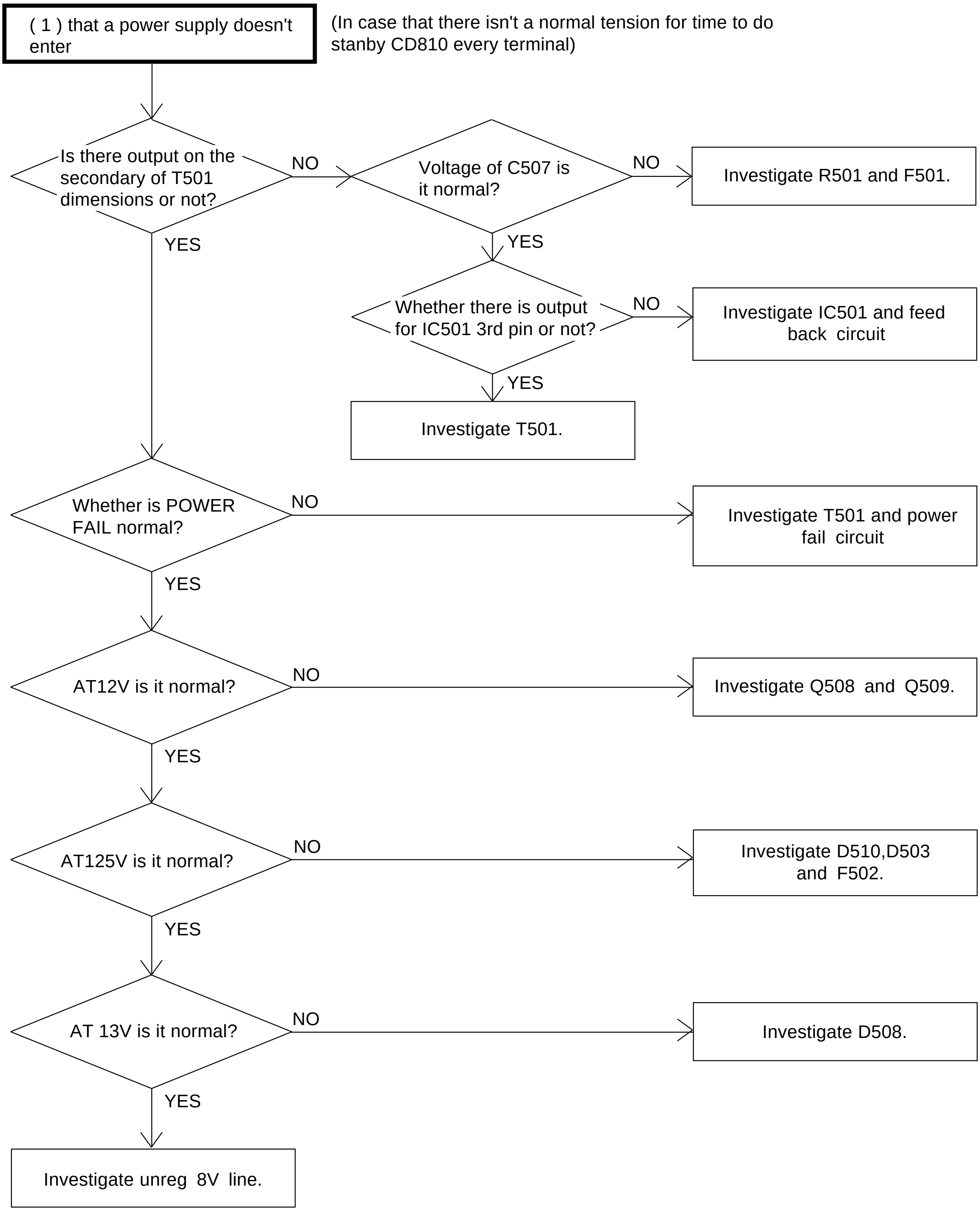


WEDGE POSITION

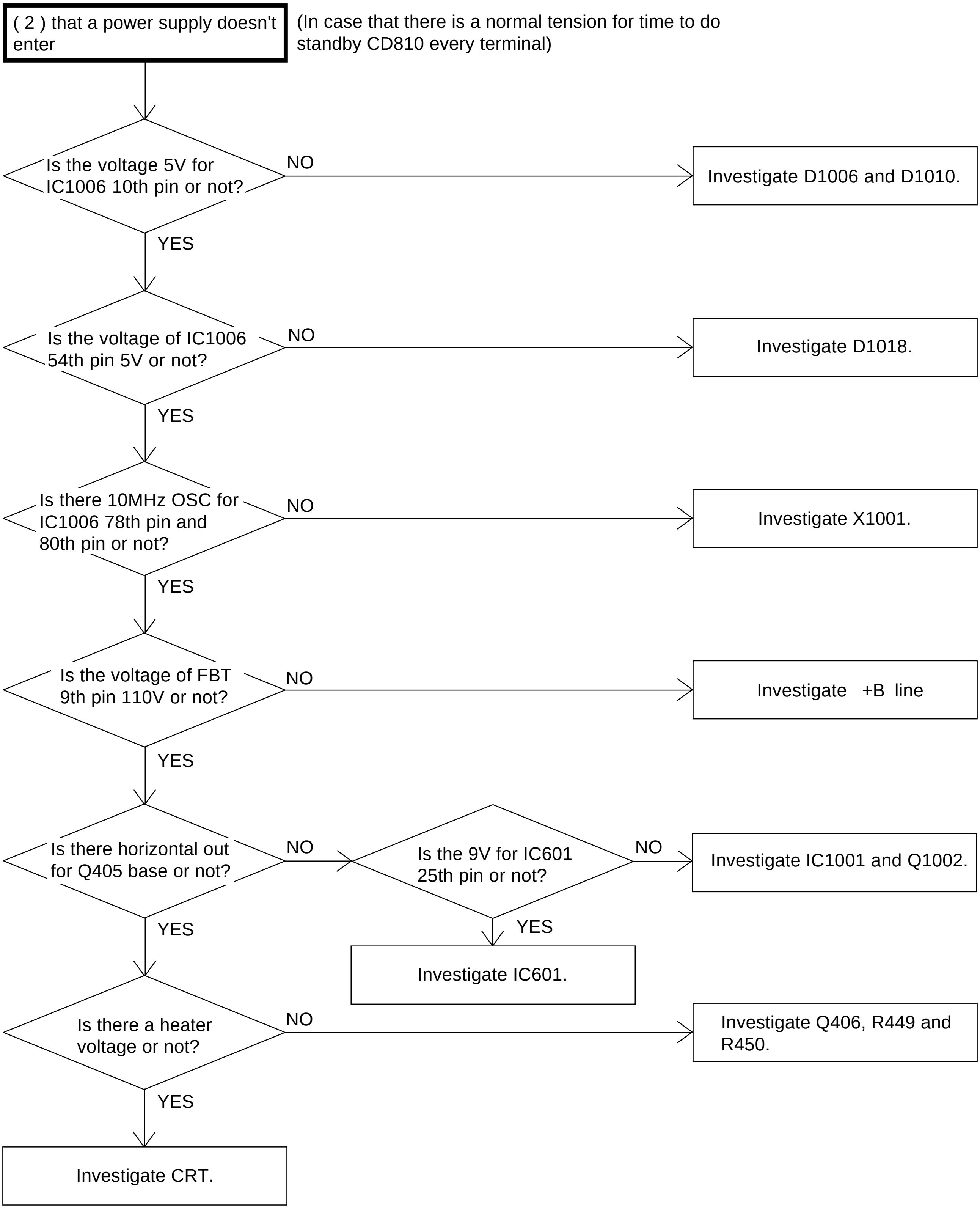
Fig. 4-2-b

TROUBLESHOOTING GUIDE

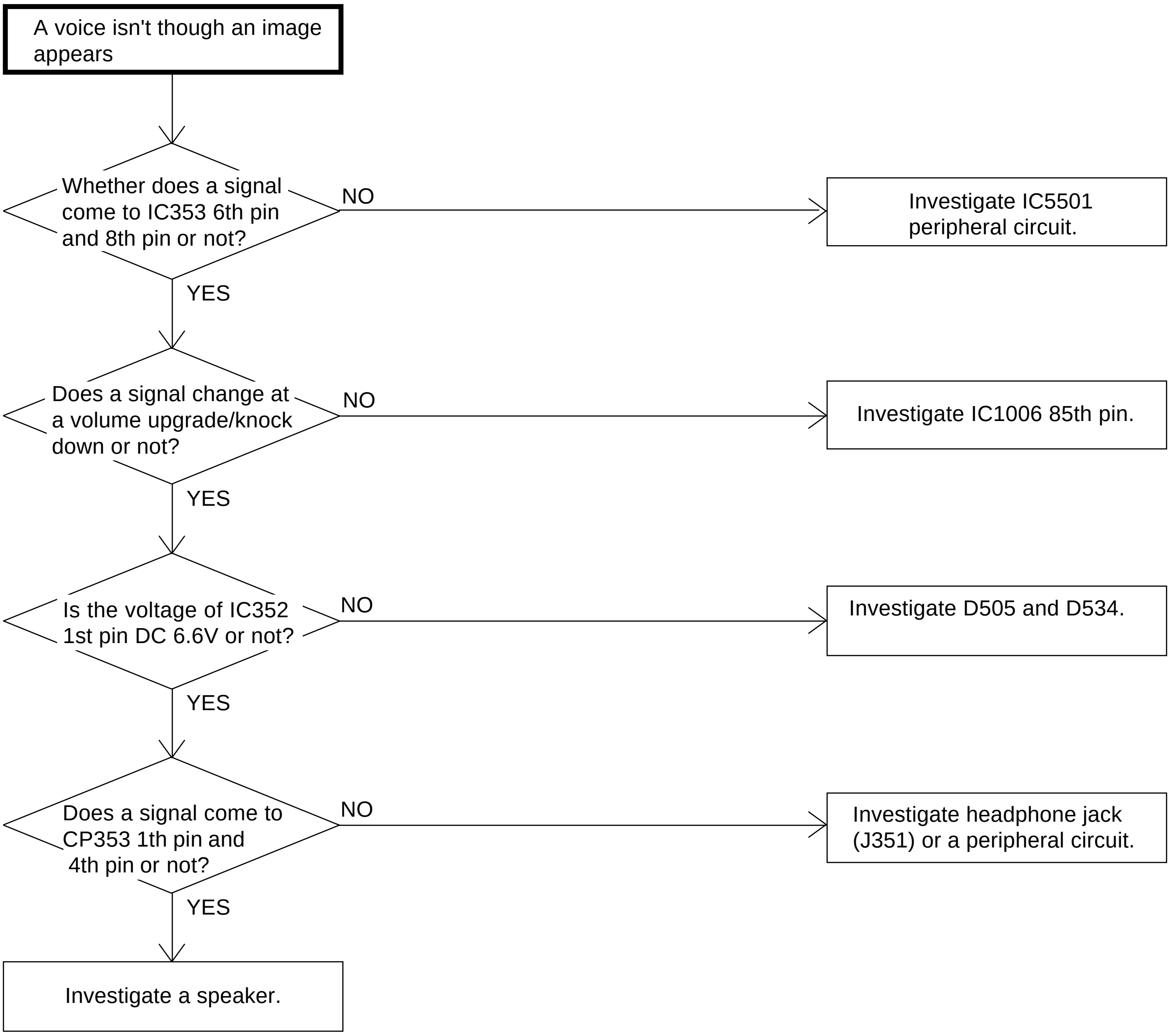
(TV SECTION)



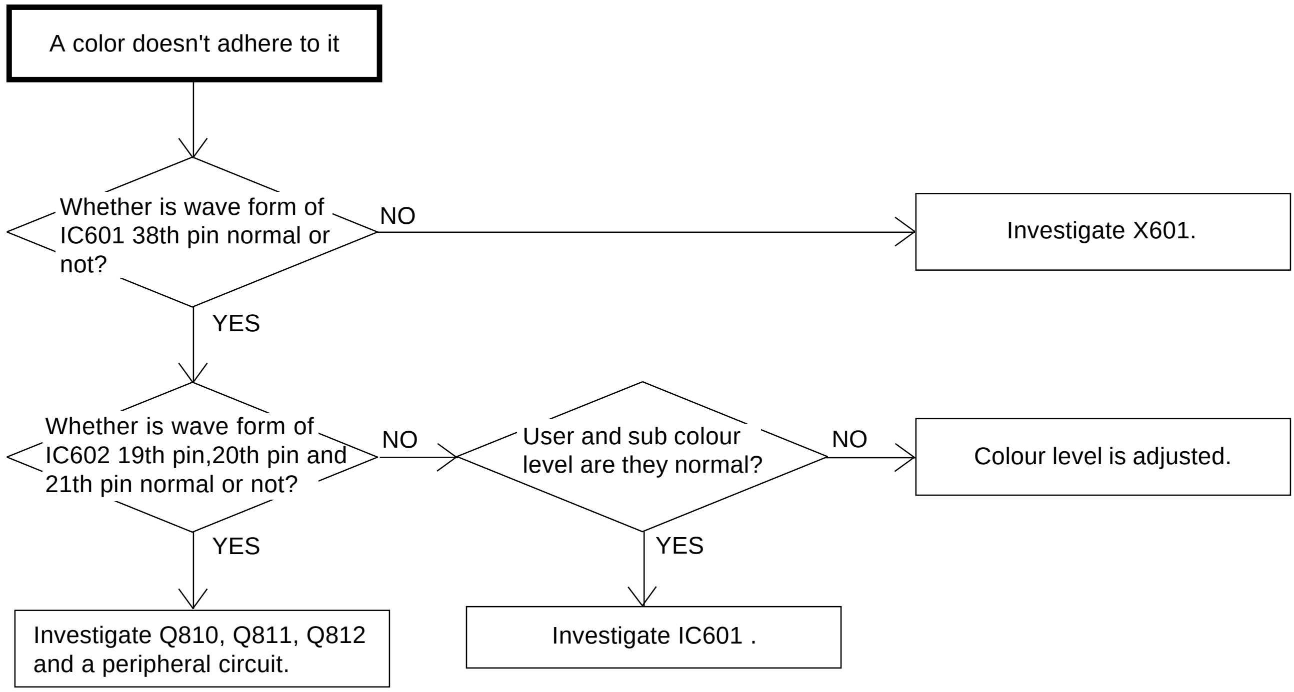
TROUBLESHOOTING GUIDE



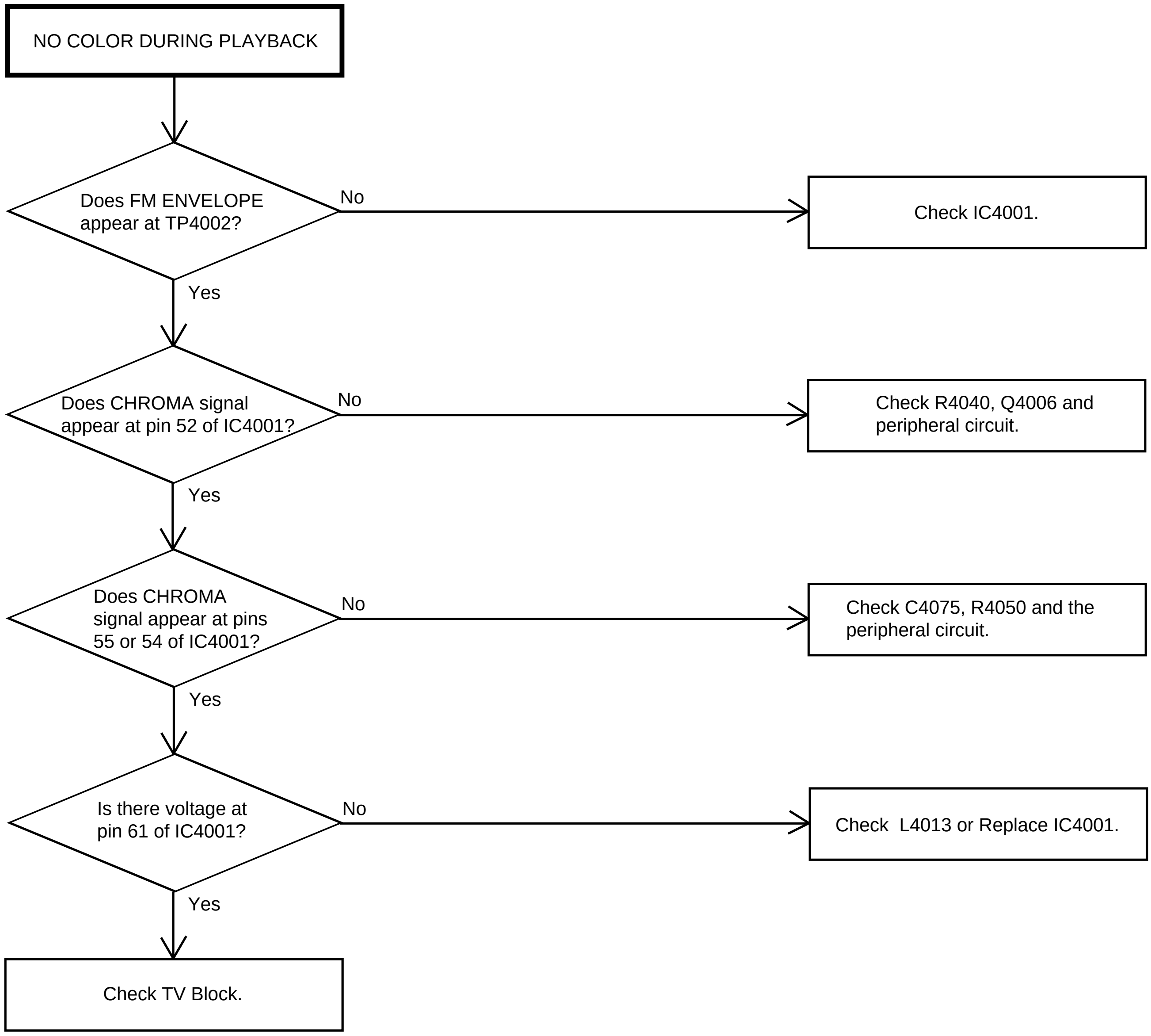
TROUBLESHOOTING GUIDE



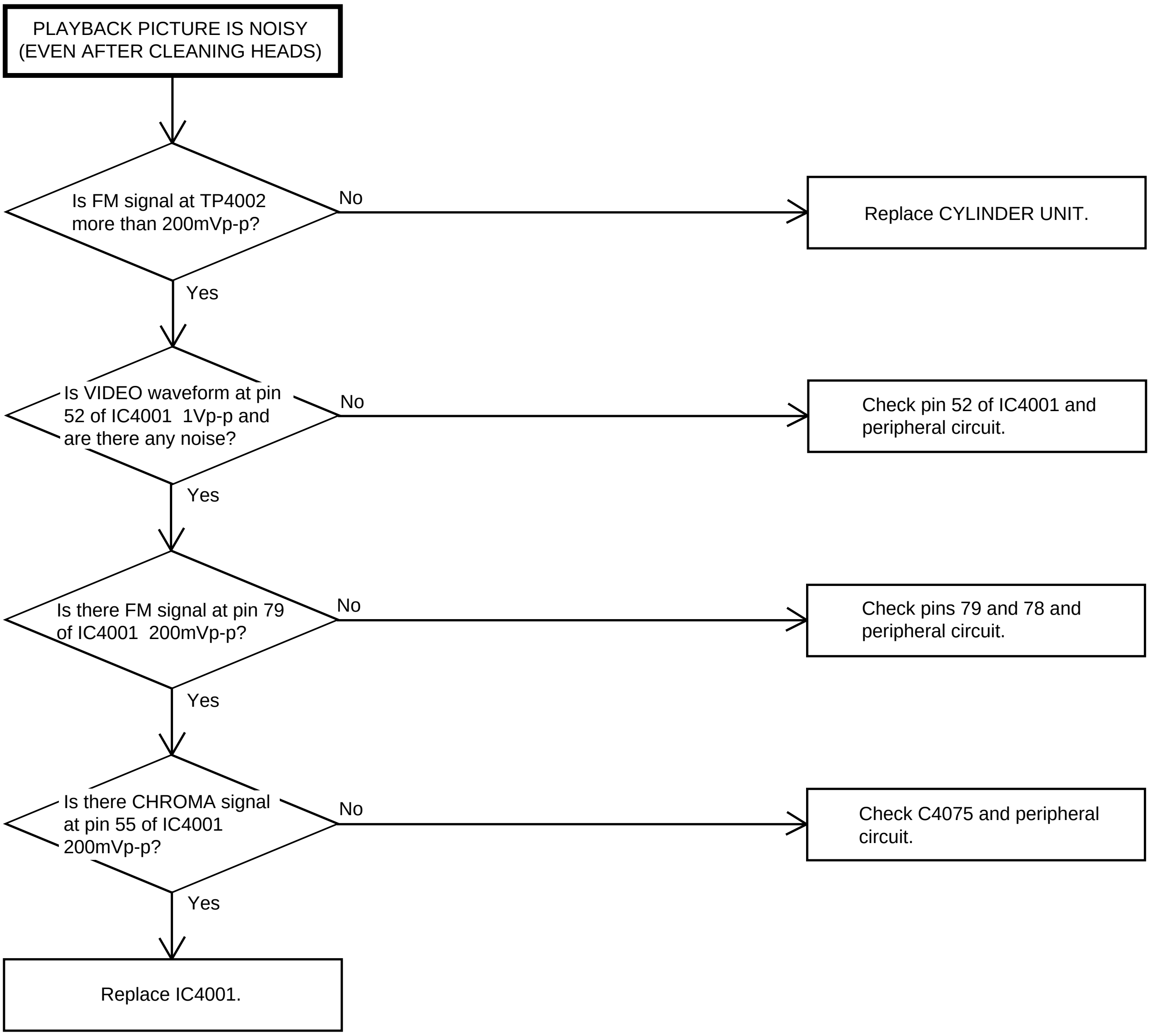
TROUBLESHOOTING GUIDE



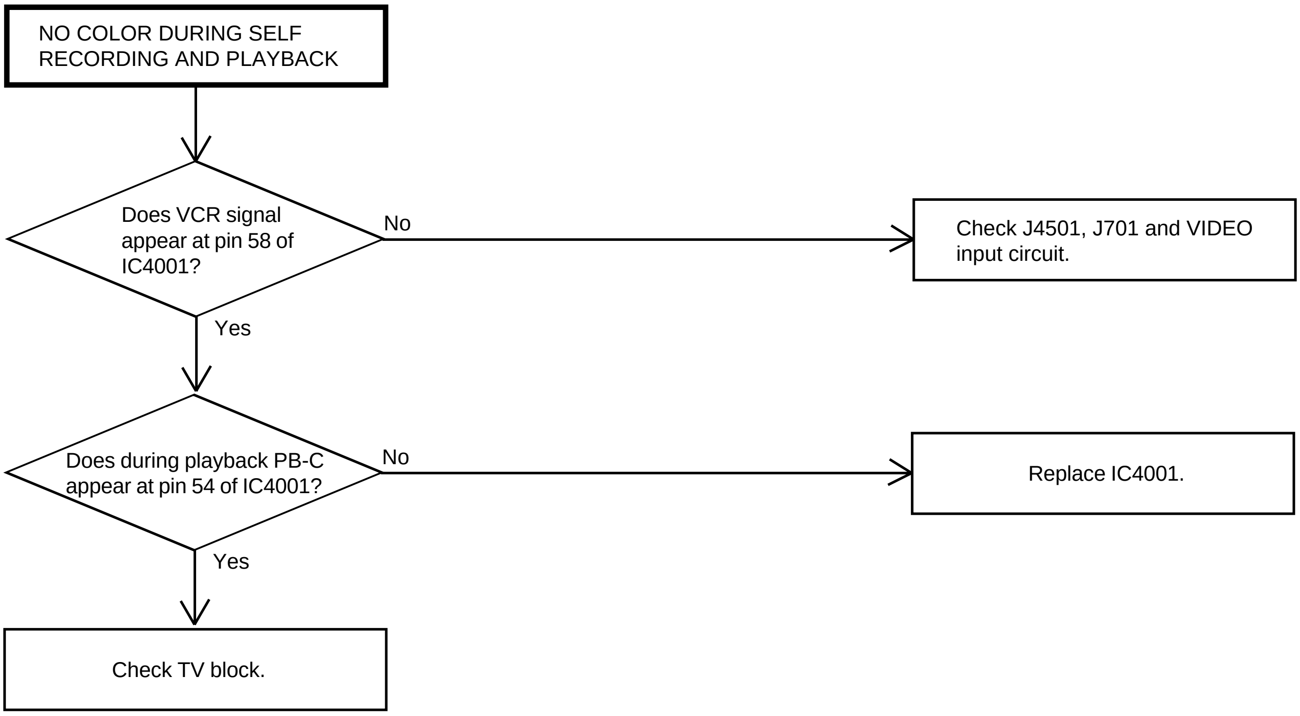
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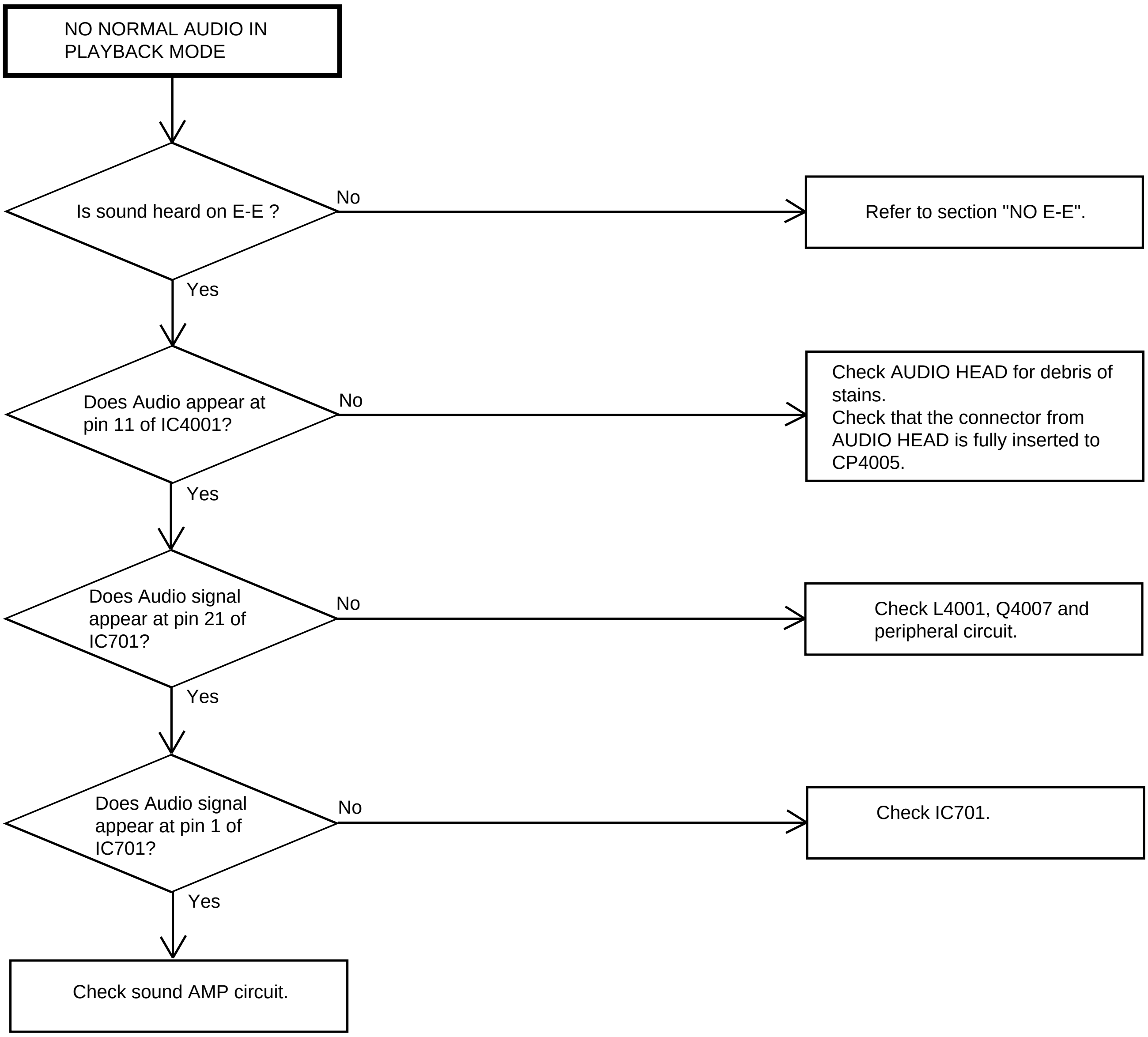
TROUBLESHOOTING GUIDE



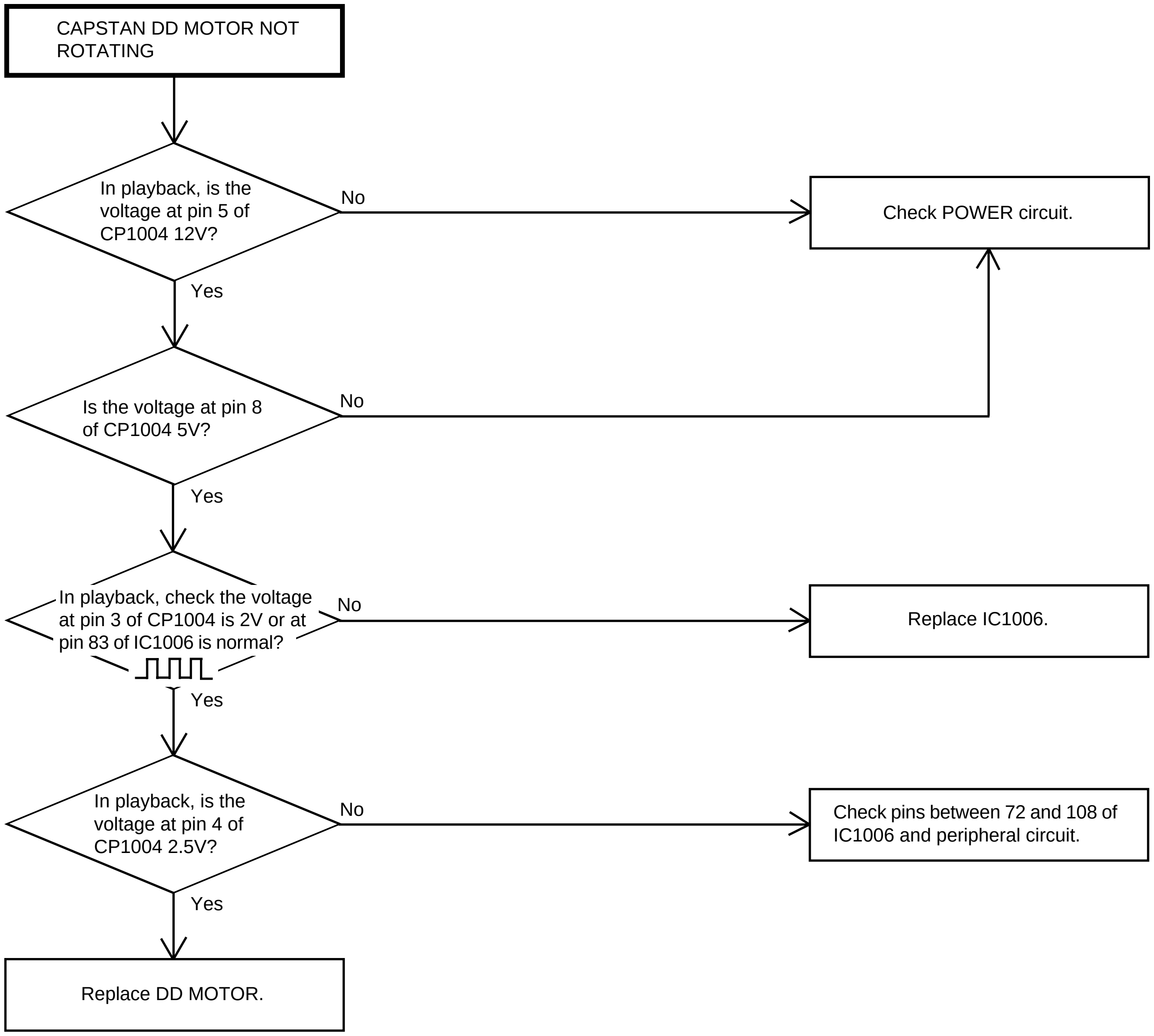
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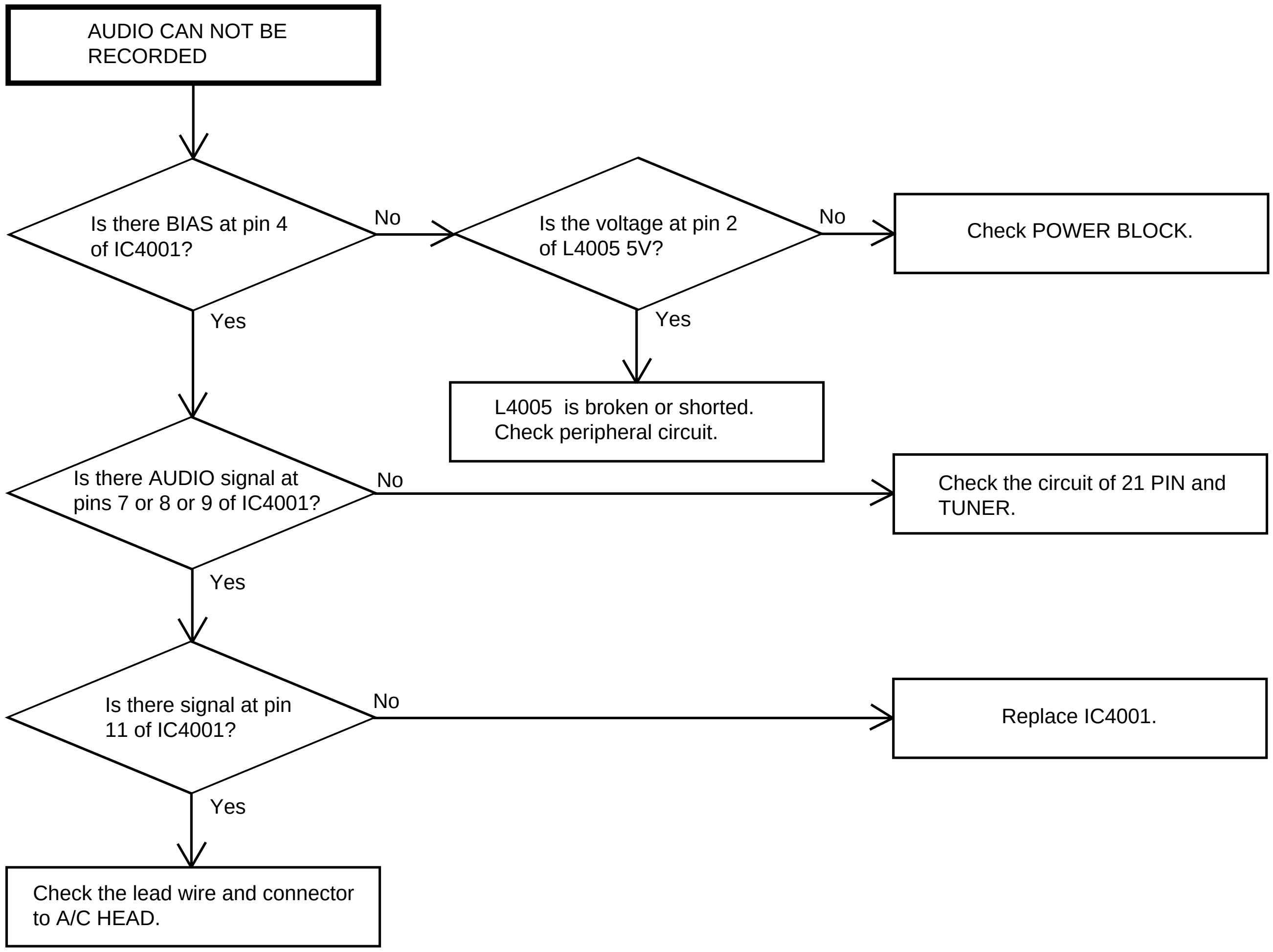
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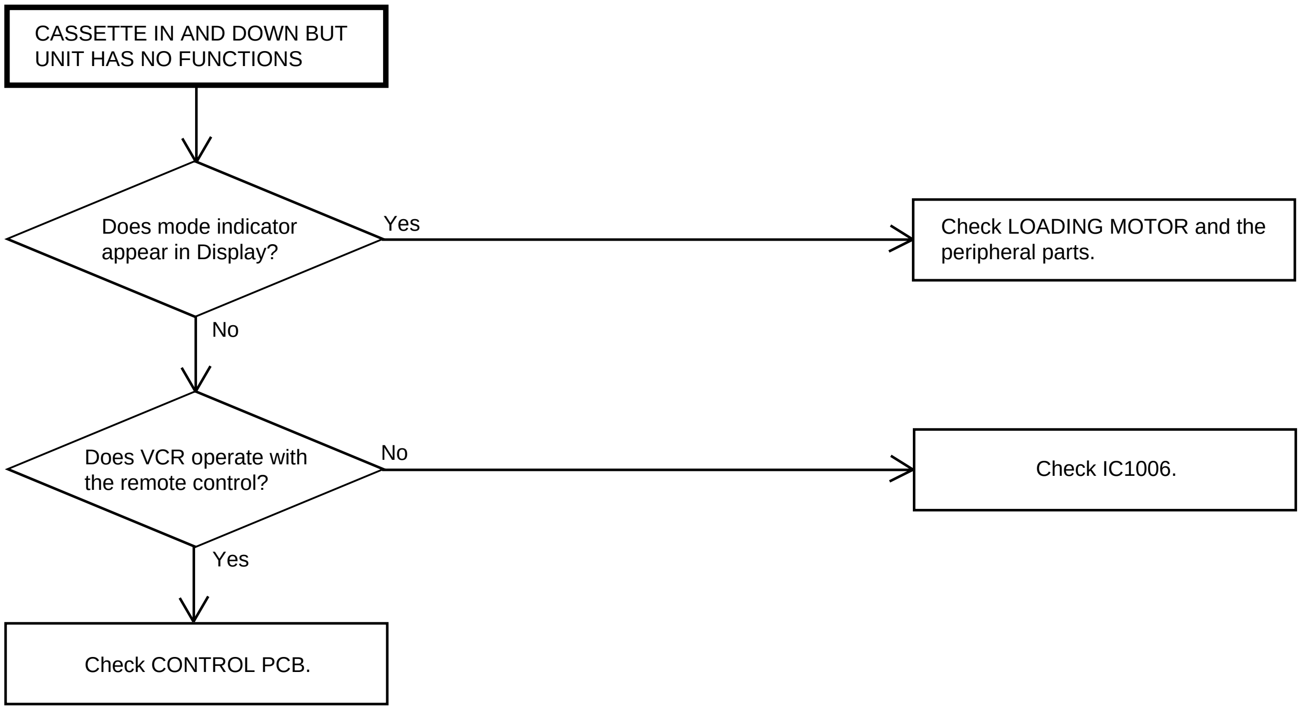
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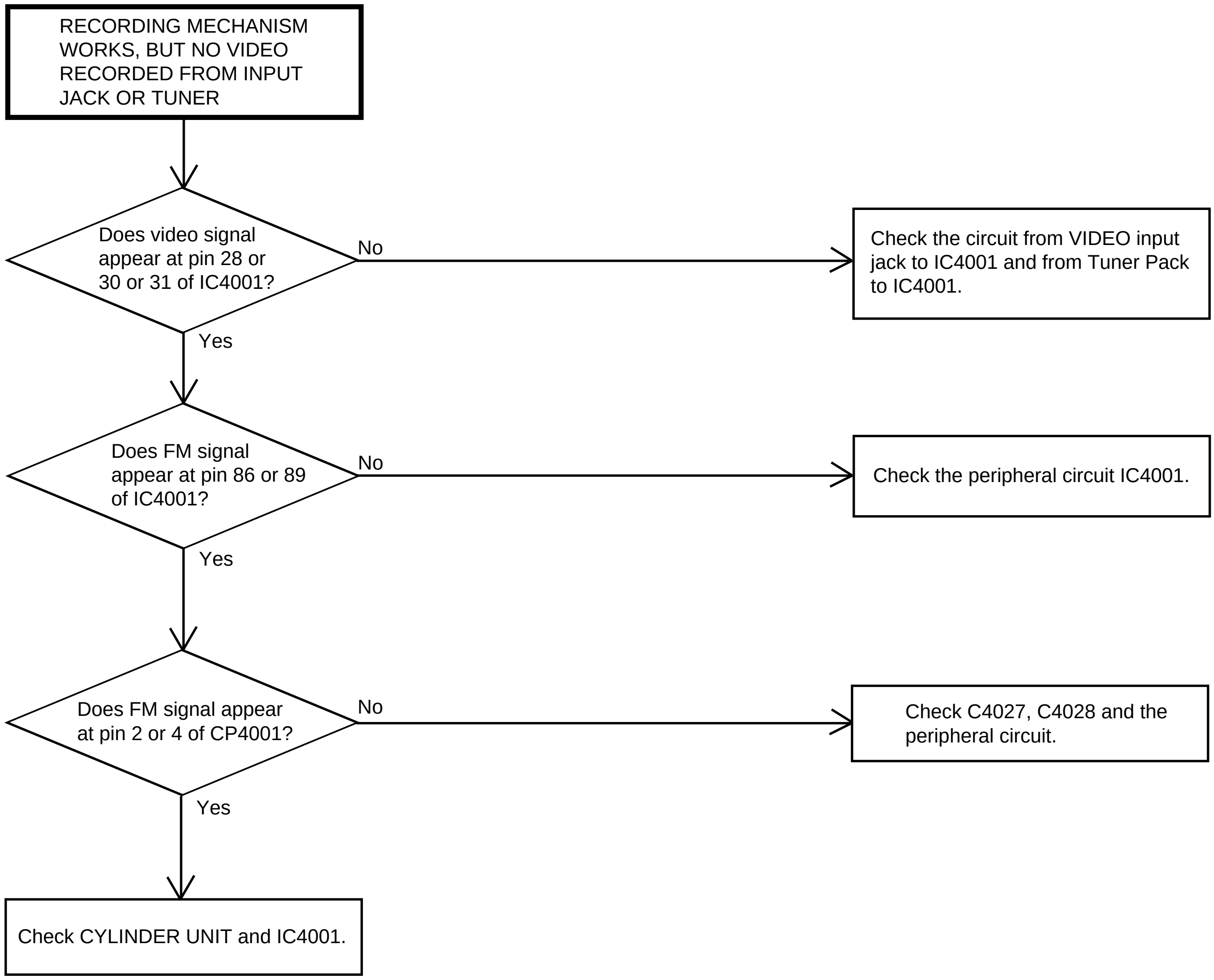
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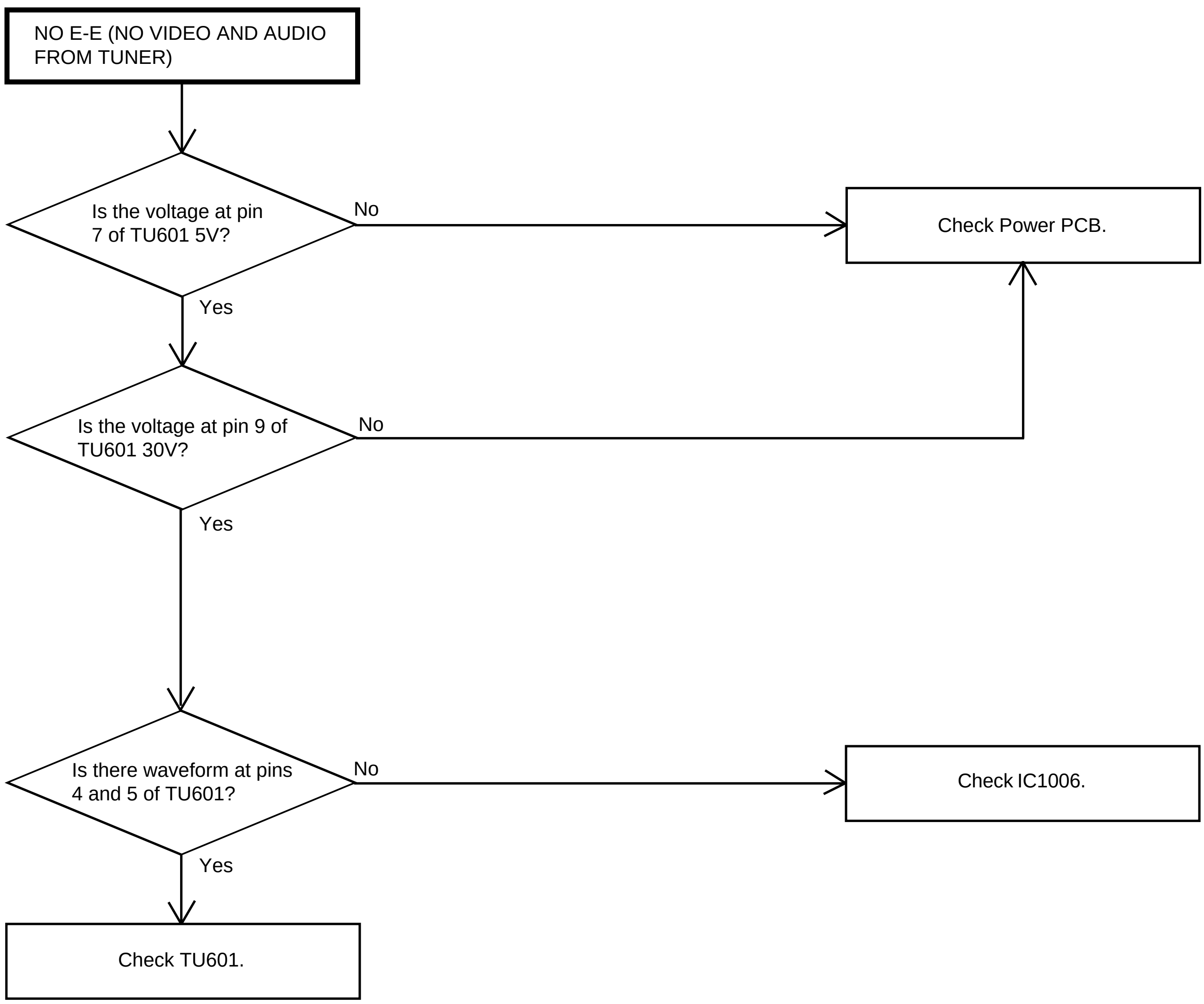
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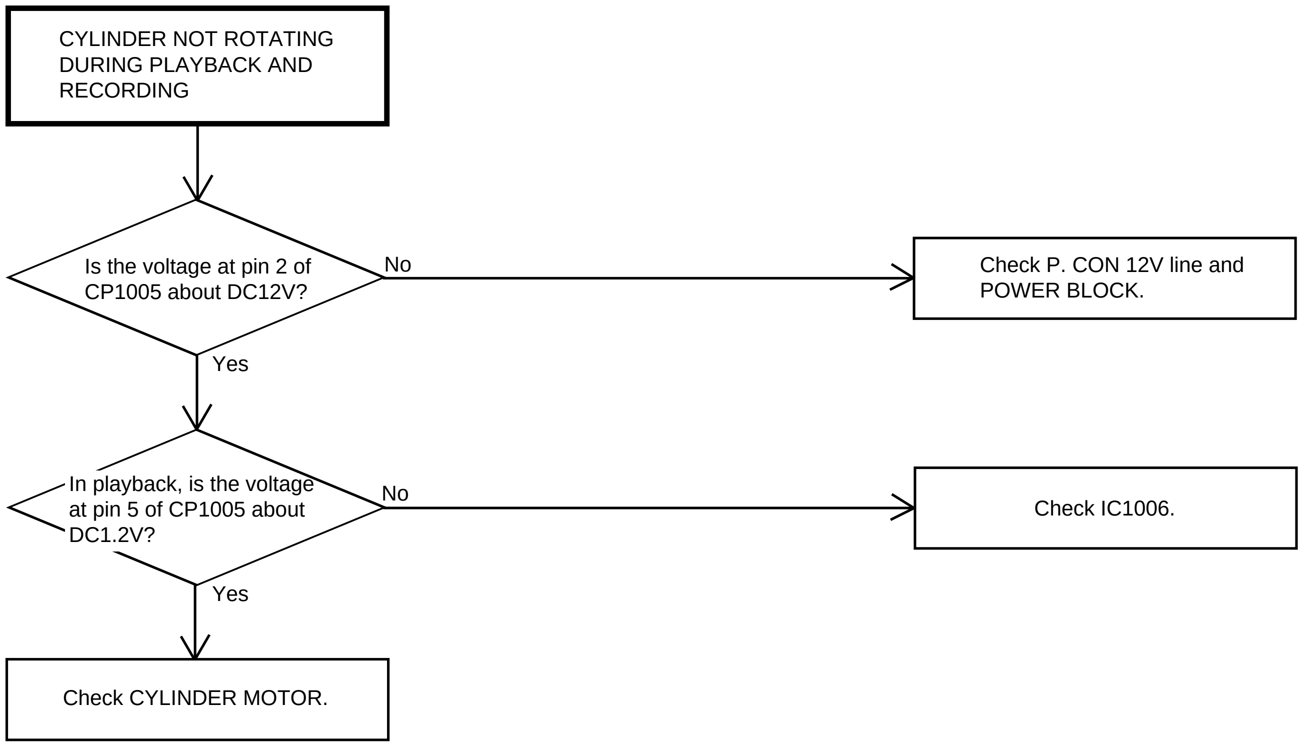
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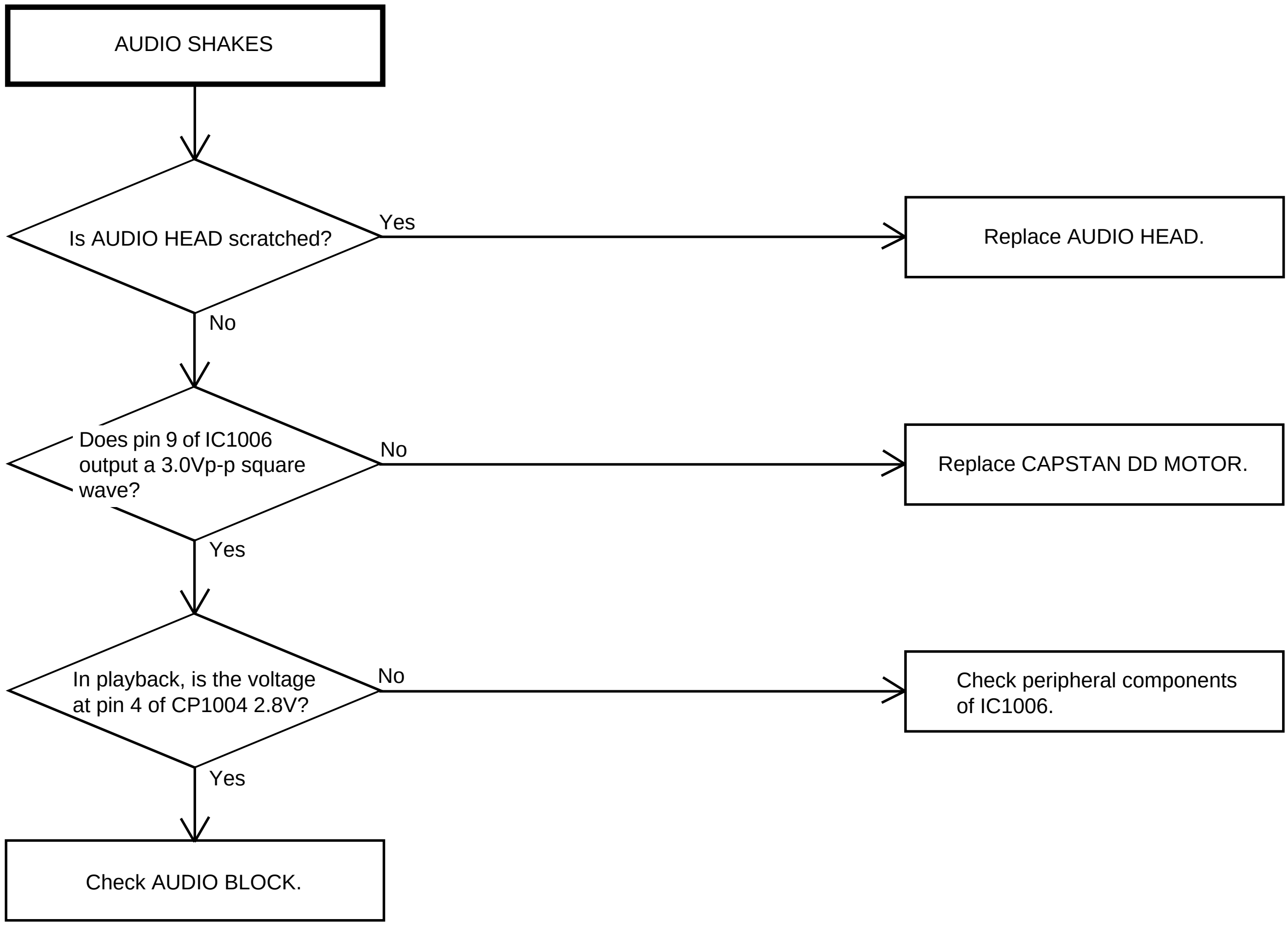
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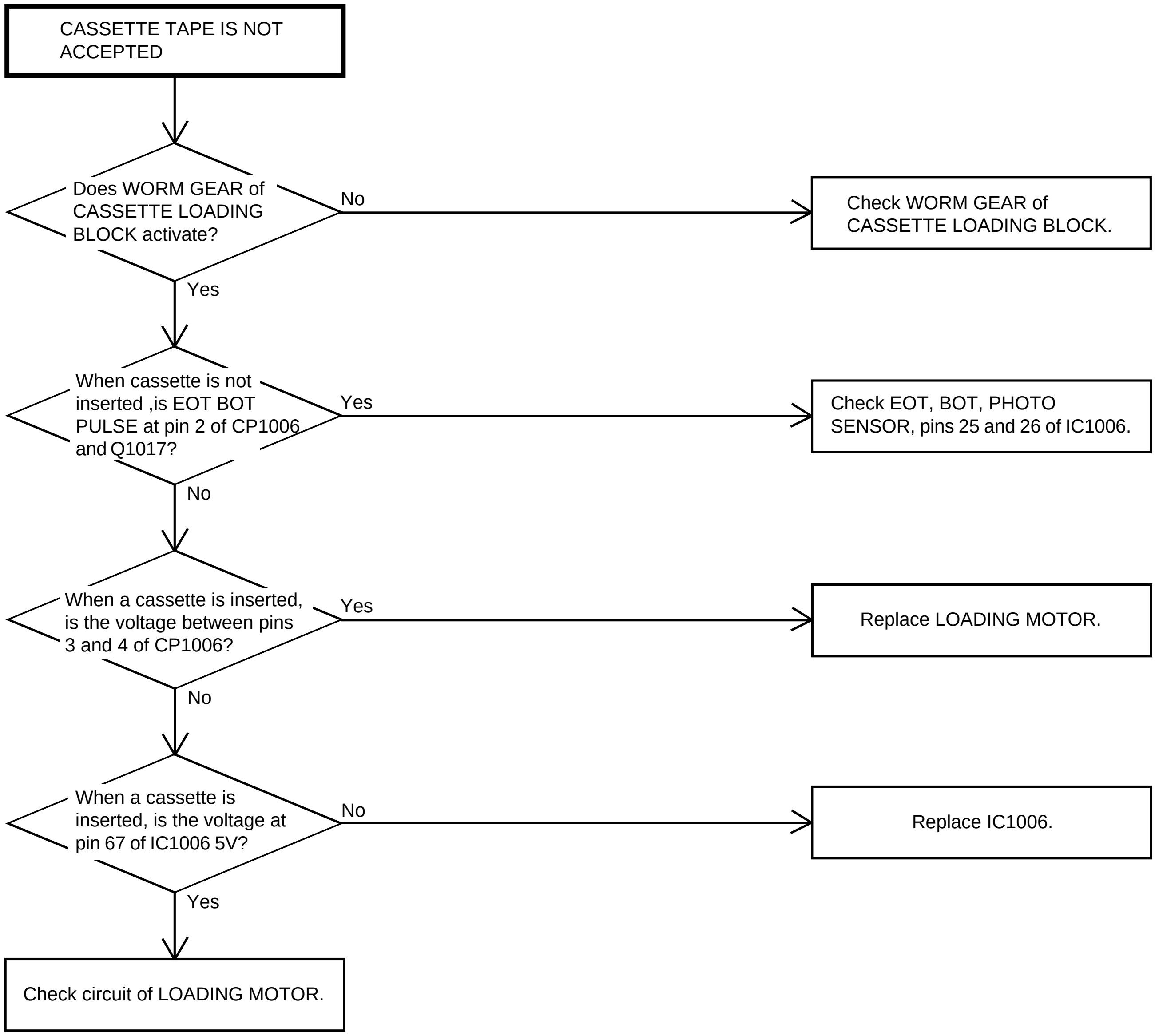
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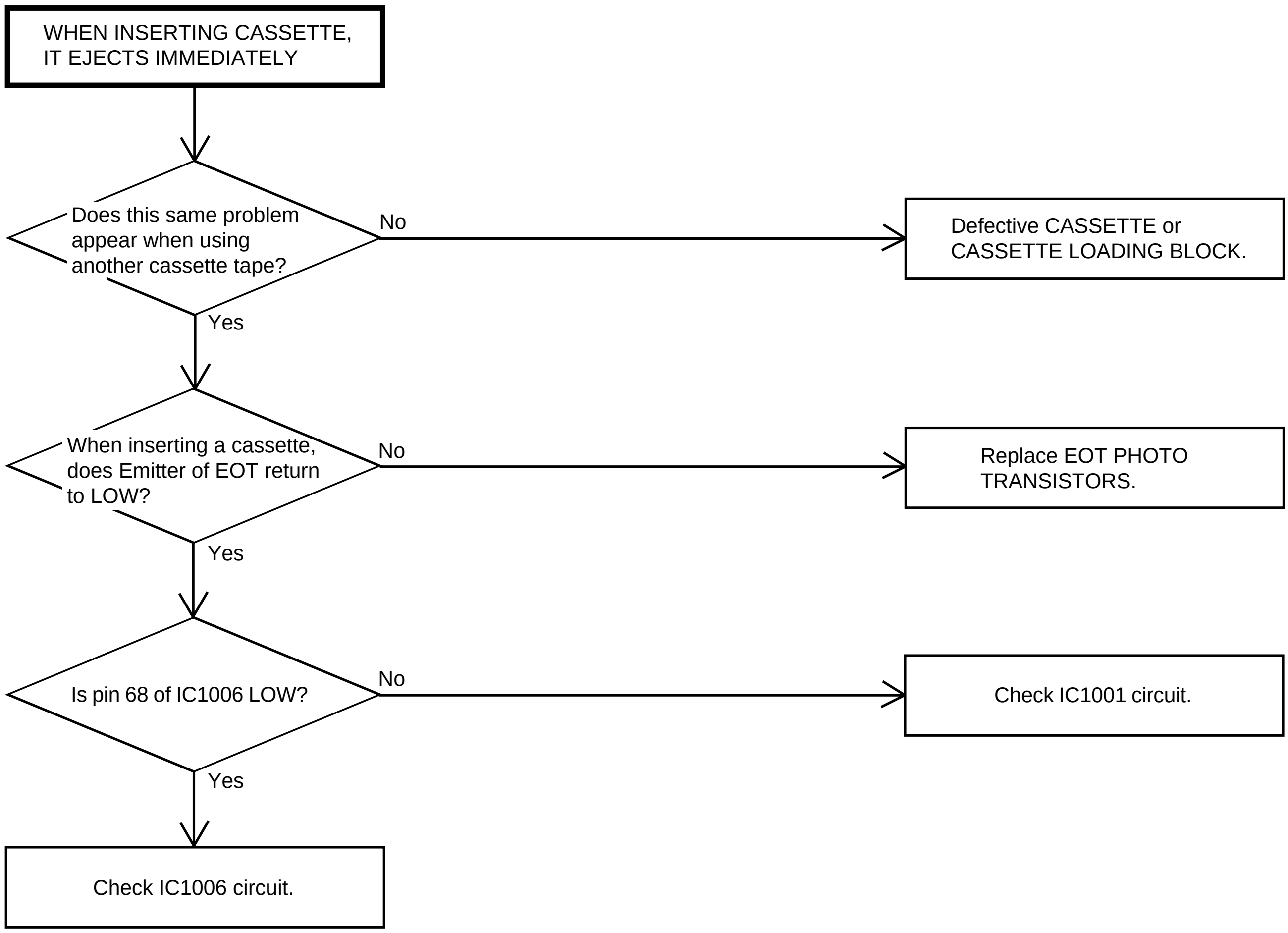
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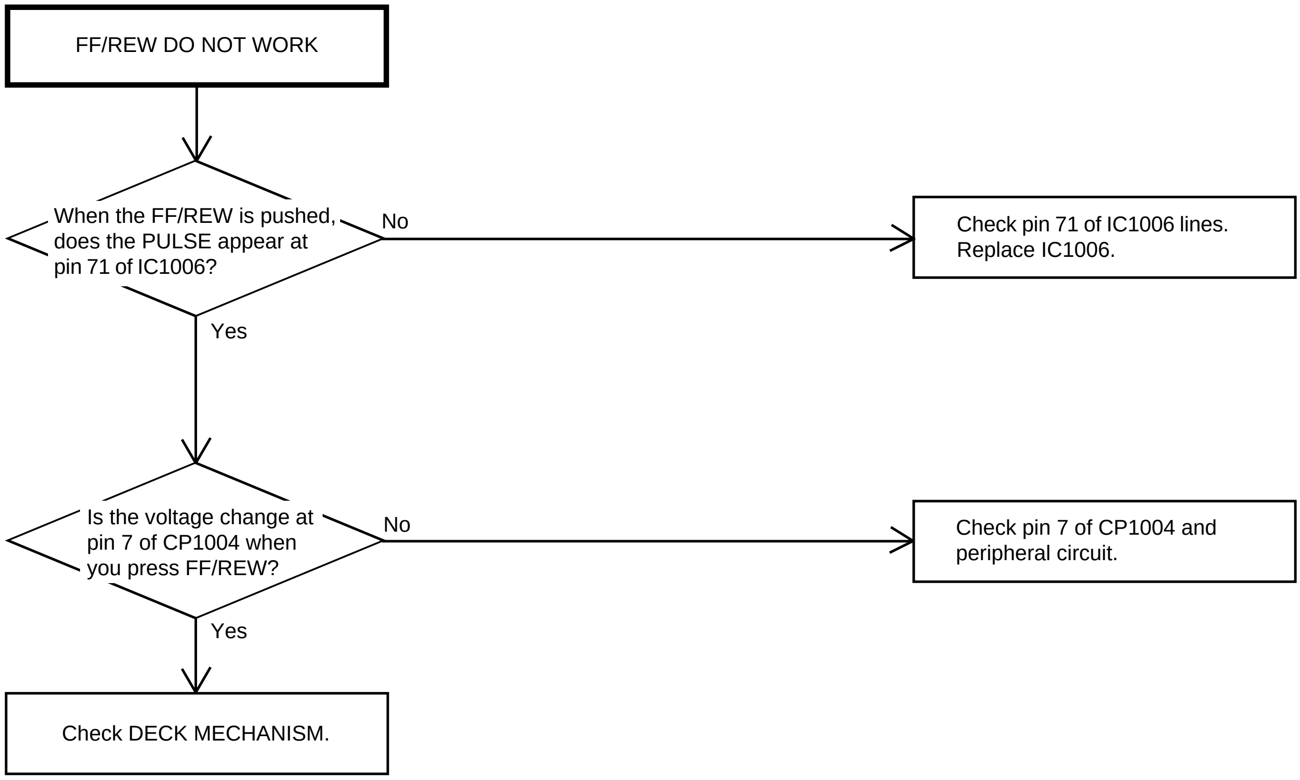
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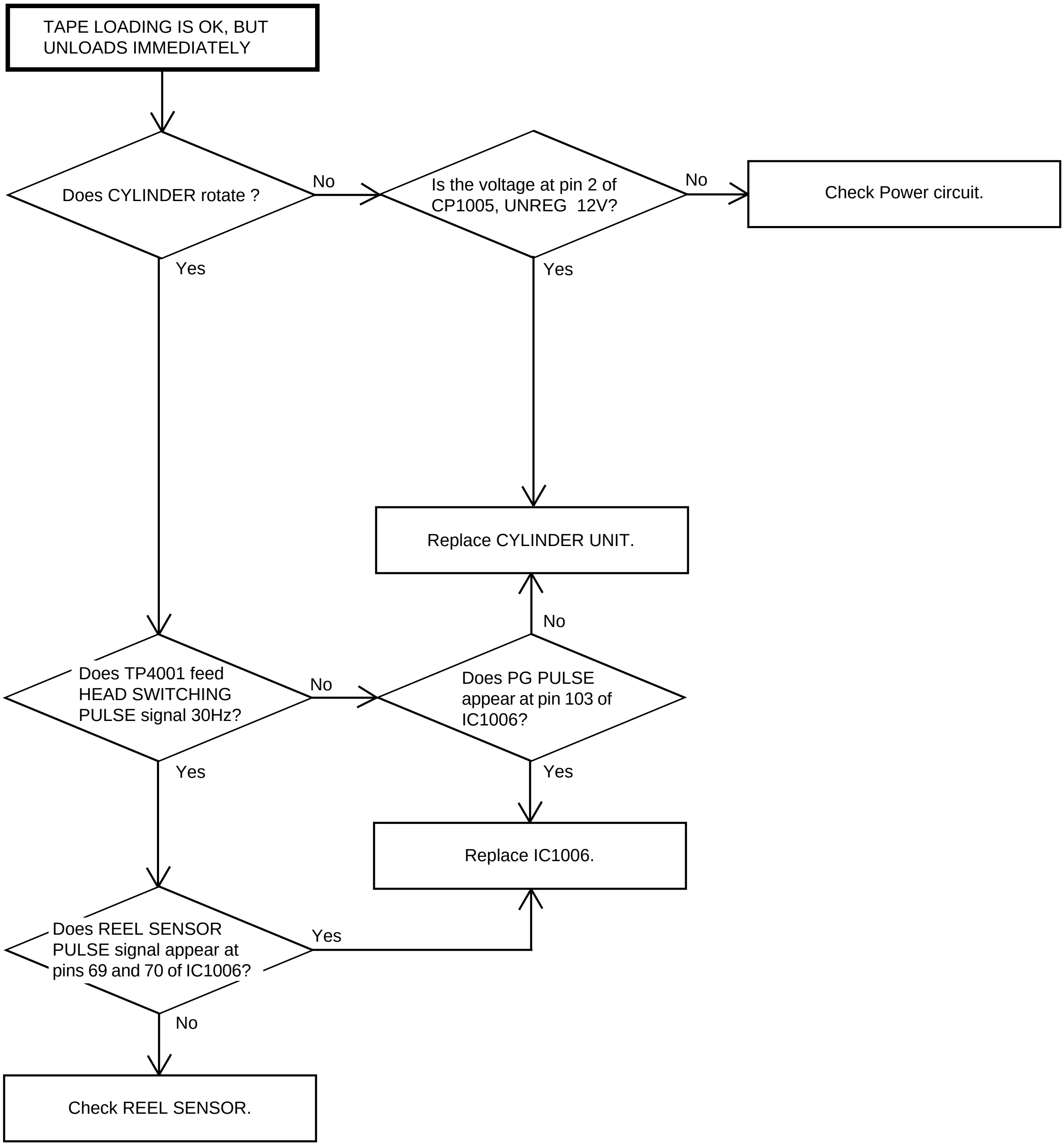
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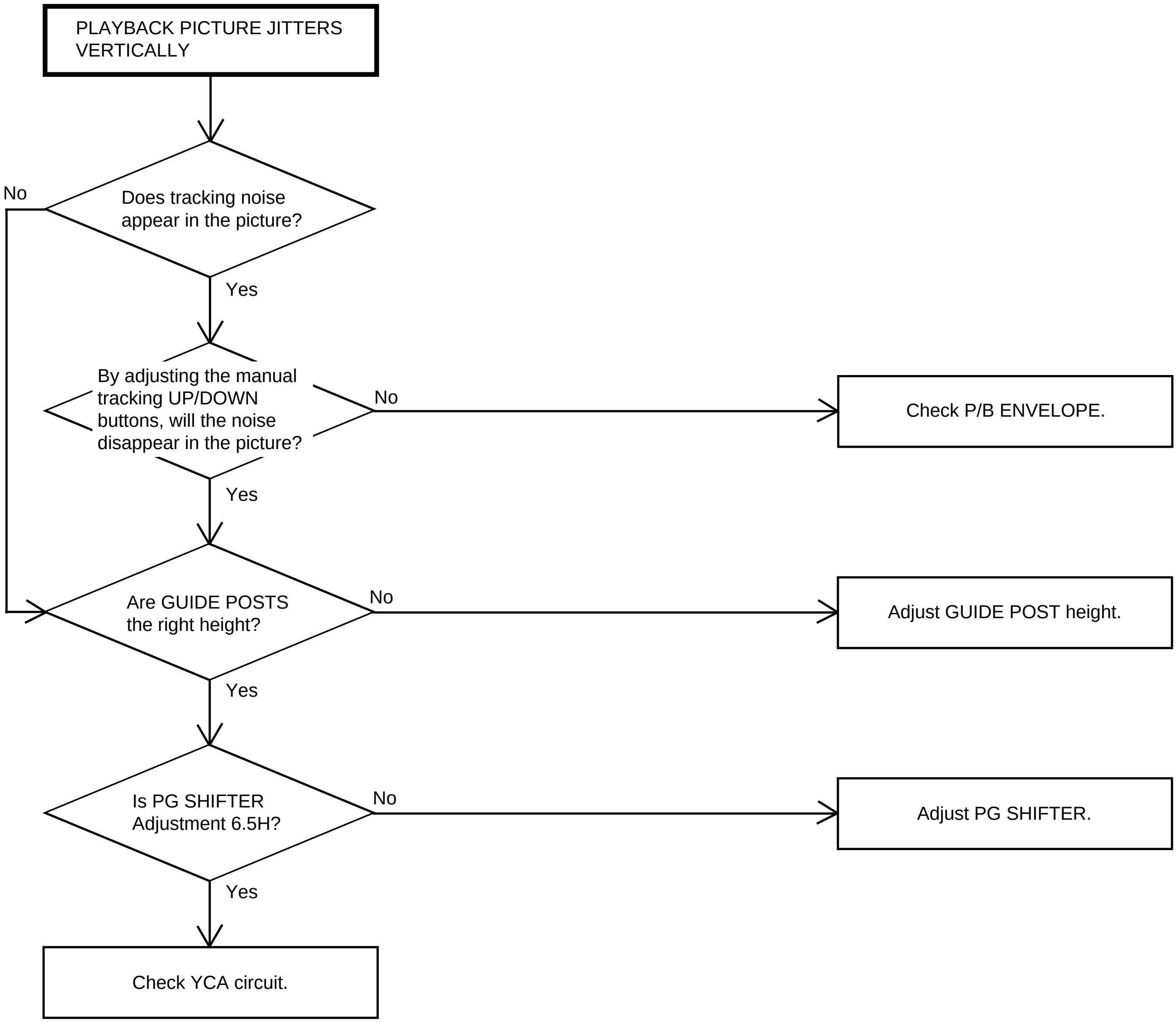
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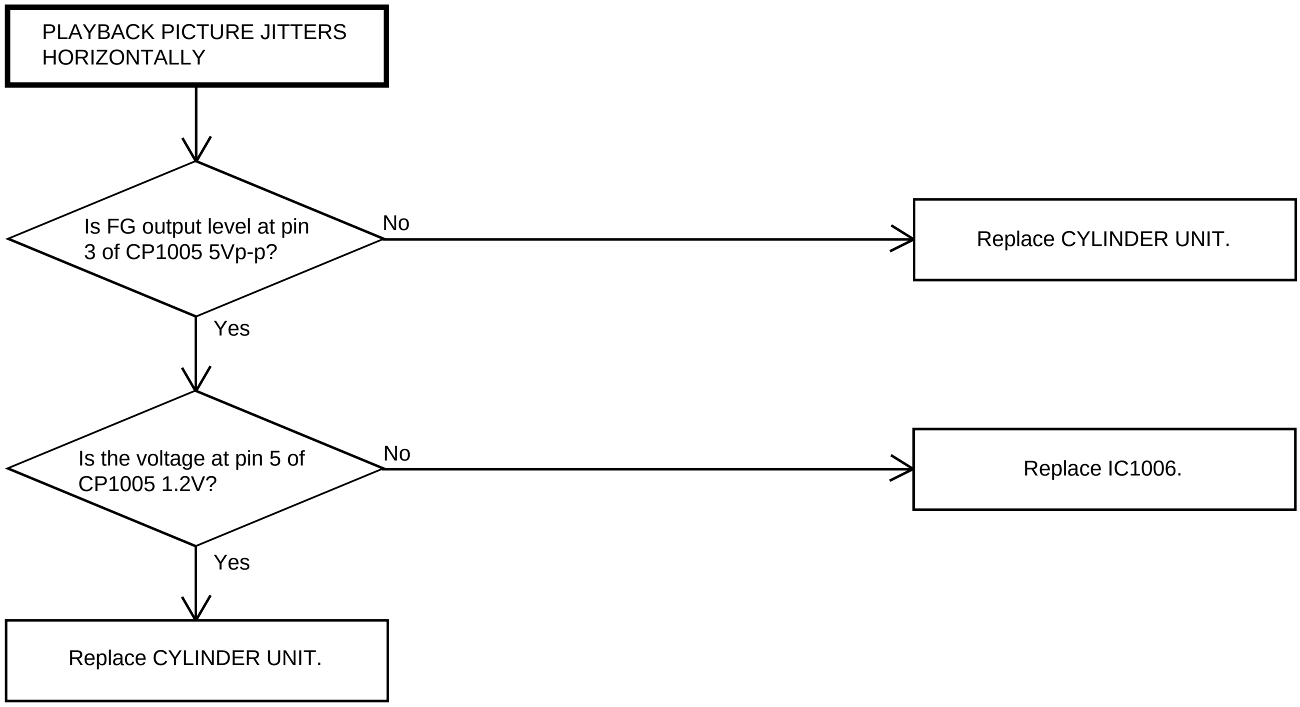
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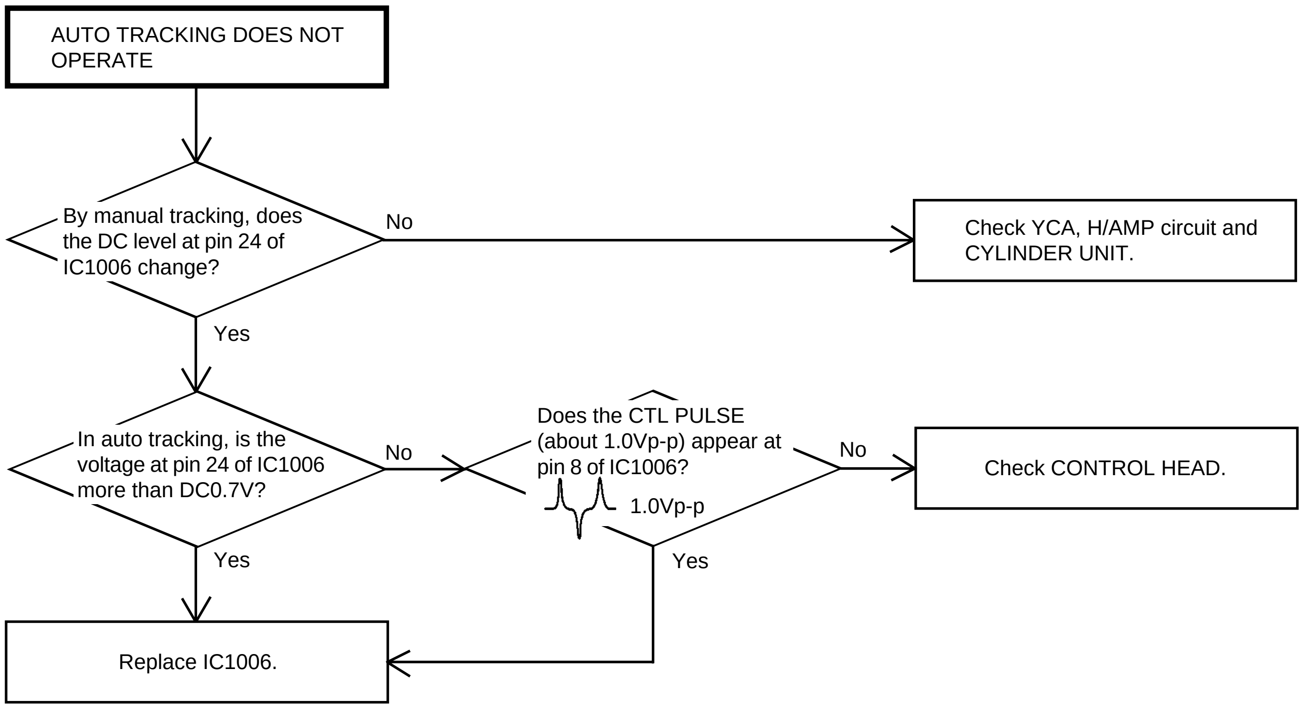


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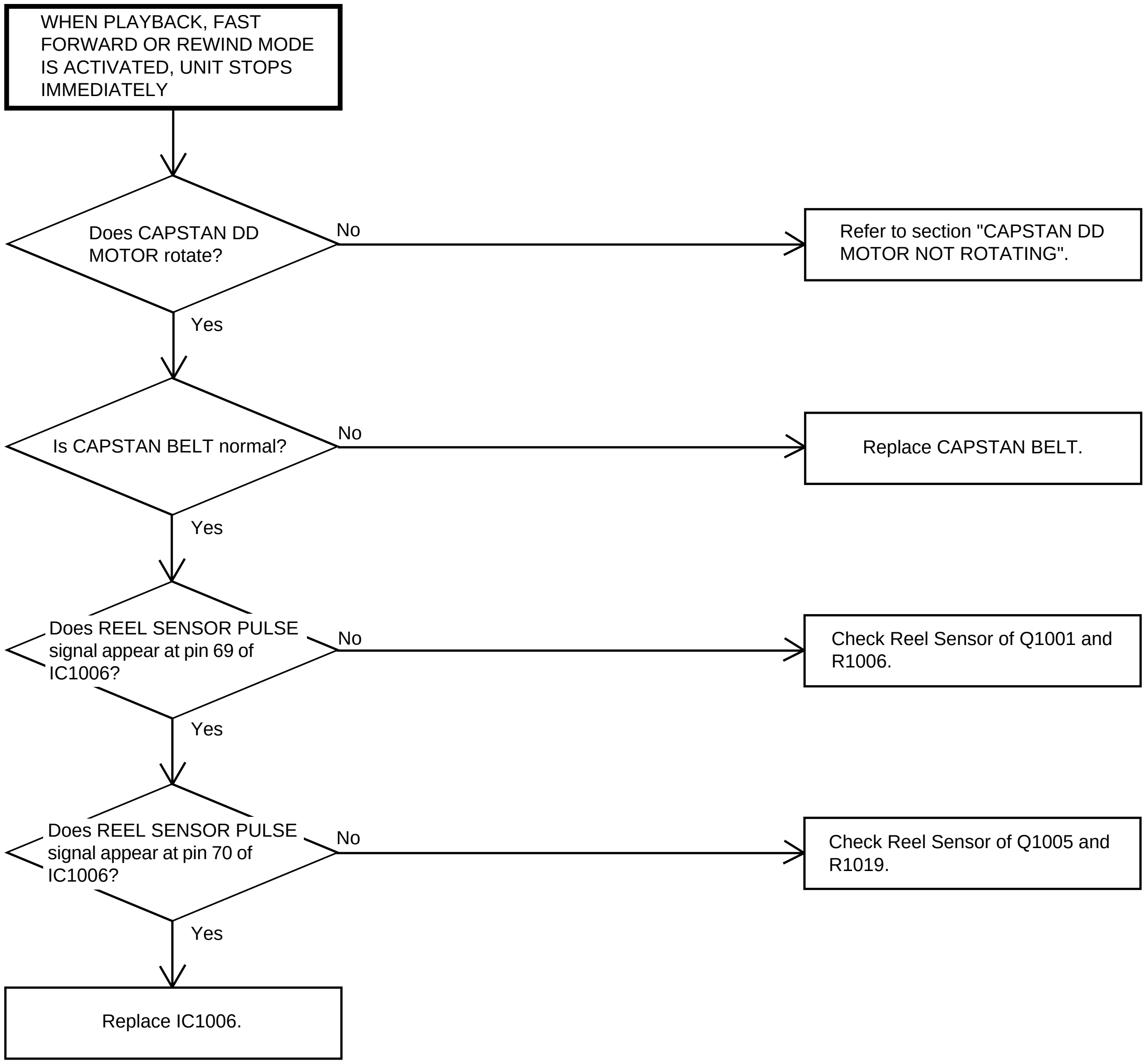


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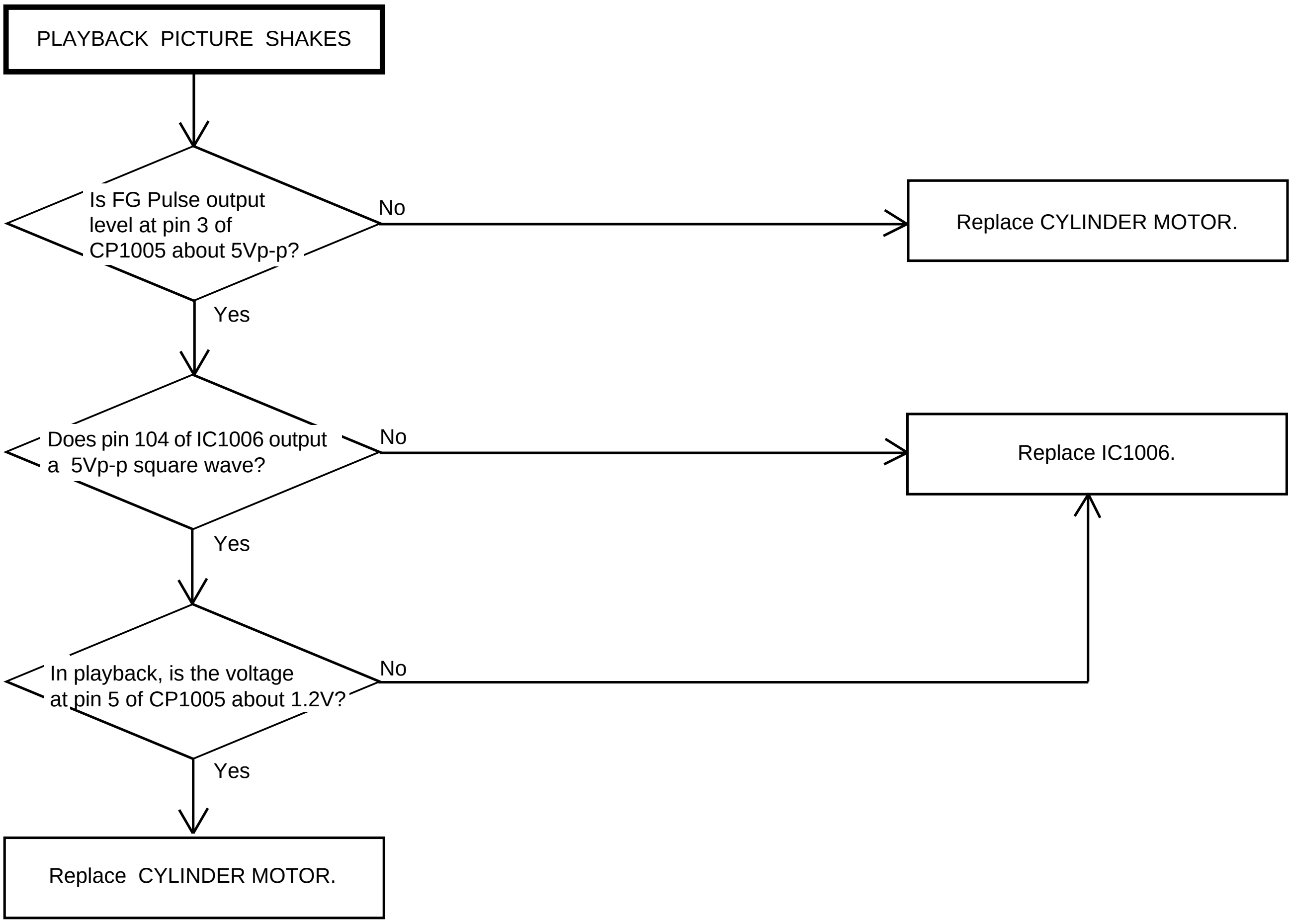




TROUBLESHOOTING GUIDE



TROUBLESHOOTING GUIDE



IC DESCRIPTIONS

OEC0096A

No.	PORT	PIN NAME	I/O	DESCRIPTION
1	SVSS	SVSS	-	Ground.
2	CTLREF	CTLREF	OUT	Output terminal for AMP REFERENCE.
3	CTL(+)	CTL(+)	I/O	Input and output terminal of Control Head.
4	CTL(-)	CTL(-)	I/O	Input terminal of Control Head.
5	CTLBIAS	CTLBIAS	IN	Input terminal of Control Bias.
6	CTLFB	CTLFB	IN	Input terminal for Control Feedback.
7	CTLAMP(O)	CTLAMP(O)	OUT	Output terminal for Control Amp Output.
8	CTLSMT(I)	CTLSMT(I)	IN	Input terminal for Control SMT Input.
9	CFG	CFG	IN	Input terminal for Capstan FG input.
10	SVCC	SVCC	-	P.CON +5 V.
11	AFCPC	AFCPC	I/O	AFC oscillation terminal.
12	AFCOSC	AFCOSC	I/O	AFC oscillation terminal.
13	AFCLPF	AFCLPF	I/O	AFC LPF terminal.
14	CSYNC/HSYNC	HSYNC	IN	input terminal of H.SYNC.
15	VLPF/VSYNC	VSYNC	IN	input terminal of V.SYNC.
16	CVIN2	CVIN2	IN	Not used.
17	CVIN1	CVIN1	IN	Not used.
18	OSDVCC	OSDVCC	-	P.CON +5 V.
19	CVOUT	CVOUT	OUT	Not used.
20	OSDVSS	OSDVSS	-	Ground.
21	4/2FSOUT	4/2FSOUT	OUT	Not used.
22	4/2FSCIN	4/2FSCIN	IN	Input terminal of 2FSC.
23	AVSS	AVSS	-	Ground.
24	ANB	VIDEO_ENV	IN	Input terminal of Video RF envelope.
25	ANA	BOT	IN	Tape start sensor input signal.
26	AN9	EOT	IN	Tape end sensor input signal.
27	AN8	MSSEN_B	IN	Input terminal of mecha state sensor.
28	P07/AN7	MSSEN_A	IN	
29	P06/AN6	KEY_B	IN	Main unit key input.
30	P05/AN5	KEY_A	IN	
31	P04/AN4	Hi-Fi_ENV	IN	Input terminal of HIFI sound envelope signal.
32	P03/AN3	NC	OUT	Not used.
33	P02/AN2	AFT.S.CURVE	IN	AFT S.CURVE input for monitor tuner.
34	P01/AN1	REC AFT.S.CURVE	IN	AFT S.CURVE input for rec tuner.
35	P00/AN0	TUNER AGC	IN	Input terminal of Electric field strength for Auto setup.
36	AVCC	AVCC	-	AT +5V.
37	P10/IRQ0	POWER_FAIL	IN	input for AC power.
38	P11/IRQ1	MO SYNC IN	IN	Input terminal for Judgement of the presence of broadcast.
39	P12/IRQ2	SERVICE	IN	Input terminal for Service Mode.
40	P13/IRQ3	DEGAUSS	OUT	output terminal for Degauss.
41	P14/IRQ4	IIC OFF	IN	Input terminal to Communications of all the terminals are cut(for Factory adjustment)
42	P15/IRQ5	DEC TU SW	OUT	Output terminal for control DEC_SW_IC.(rec_tuner/moni_tuner)
43	P16/IC	REMOCON IN	IN	Receive the remote control signal input.
44	P17/TMOW	TUNER CTL	OUT	Output terminal of DATA for 2-tuner control.
45	P67/RP7/TMB	T-REC LED	OUT	Output terminal control for T-REC-LED voltage drive.
46	P66/RP6/ADTRG	REC LED	OUT	Output terminal control for REC-LED voltage drive.
47	P65/RP5	ON_TIMER LED	OUT	Output terminal control for ON_TIMER-LED voltage drive.
48	P64/RP4	PLAY LED	OUT	Output terminal control for PLAY-LED voltage drive.
49	P63/RP3	OTPB LED	OUT	Output terminal control for OTPB-LED voltage drive.
50	P62/RP2	TV POWER_ON-H	OUT	For control of the user TV-power switch ON/OFF.

IC DESCRIPTIONS

OEC0096A

No.	PORT	PIN NAME	I/O	DESCRIPTION
51	P61/RP1	VCR POWER_ON-H	OUT	For control of the user VCR-power switch ON/OFF.
52	P60/RP0	CENT_LED	OUT	Output terminal for center LED control.
53	P37/TMO	TAB_SW	IN	Input terminal for judge the tape if it has TAB or not.
54	P36/BUZZ	CTL_MONITOR	OUT	Output terminal for control Monitor.
55	P35/PWM3	MS_SENS_CTL	OUT	Output terminal to drive sensor control.
56	VCC	VCC	-	AT +5V.(Back_up 5V)
57	VSS	VSS	-	Ground.
58	P27/SYNC1	EXT IN-L	IN	Input terminal for Compulsion outside input.
59	P26/SCL0	IIC_CLK_0	OUT	Output Clock terminal for I2CBUS communication.
60	P25/SDA0	IIC_DATA_0	I/O	Output Data terminal for I2CBUS communication.
61	P24/SCL1	TEXT RESET	OUT	Output terminal of reset for TEXT_IC.
62	P23/SDA1	AV3	OUT	Output terminal for control MONO_SW_IC.(TUNER,AV1,AV2)
63	P22/SCK1	SD-L	OUT	Output terminal of SD.
64	P21/SI1	SI1	IN	Input terminal of DATA FZTAT input.
65	P20/SO1	SOD DATA	OUT	Output terminal of DATA FZTAT output.
66	P47/RPTRG	PAL_H	OUT	Output terminal for judgement of colour system PAL/NTSC.
67	P46/FTOB	LDM_FWD	OUT	Output signal to control the rotation direction of the loading motor.
68	P45/FTOA	LDM_RVS	OUT	
69	P44/FTID	REEL-S	IN	Input terminal of reel sensor SUPPLY.
70	P43/FTIC	REEL-T	IN	Input terminal of reel sensor TAKE UP.
71	P42/FTIB	CAP_FWD-L	OUT	Capstan forward and backward command.
72	P41/FTIA	CAP_FULL	OUT	Output the HIGH during the acceleration force of Capstan Motor at SLOW mode.
73	P40/PWM14	VV-H	OUT	Output terminal for select Playback/Recording at the circuit of sound.
74	FWE	FWE	IN	Input terminal of FZTAT signal(L: low signal input).
75	X2	X2	OUT	Subclock plus (32.768KHz).
76	X1	X1	IN	Subclock plus (32.768KHz).
77	/RES	/RES	IN	RESET will be done when the voltage goes to HIGH after the restart signal.
78	OSC1	OSC1	IN	Connect the main crystal (10MHz).
79	VSS	VSS	-	Ground.
80	OSC2	OSC2	OUT	Connect the main crystal (10MHz).
81	VCL	VCL	IN	input terminal for Capacity.
82	MD0	MD0	IN	Input terminal of FZTAT signal.
83	P34/PWM2	CAP_LIMIT	OUT	Switch the maximum out put current of the CAPSTAN Motor.
84	P33/PWM1	REC AGC CONT.	IN	Input terminal of AGC adjustment for rec tuner.
85	P32/PWM0	VOLUME PWN	OUT	Output signal to PWM output for volume control.
86	P31/SV2	STAND_BY-H	OUT	Mute signal of audio mute for tuner.
87	P30/SV1	AV1	OUT	Output terminal for control AV_SW_IC(TUNER,AV1,AV2)
88	P70/PPG0	TV MUTE-H	OUT	Mute signal of TV mute.
89	P71/PPG1	VCR MUTE-H	OUT	Mute signal of VCR mute.
90	P72/PPG2	V.REC.START-H	OUT	Output terminal for REC signal when record.
91	P73/PPG3	TUNER MUTE	OUT	Mute signal of TUNER mute.
92	P74/PPG4/RP8	AV2	OUT	Output terminal for control AV_SW_IC(TUNER,AV1,AV2)
93	P75/PPG5/RP9	TEXT_H	OUT	Output sigmal to TEXT/MIX mode.
94	P76/PPG6/RPA	AFC OFF-H	OUT	Output sigmal to cut of AFC(chroma ic).
95	P77/PPG7/RPB	FF/REW-L	OUT	Output sigmal to FF/REW.(high speed)
96	P80/YCO	YCO	OUT	Output terminal of character data.
97	P81/YBO	BB_L	OUT	Output sigmal to blue back mode.
98	P82/EXCTL	DA RGB SW	OUT	Output sigmal to cut of RGB sync
99	P83/C.ROTARY/R	R	OUT	Output sigmal of R for OSD.
100	P84/H.AMP.SW/G	G	OUT	Output sigmal of G for OSD.

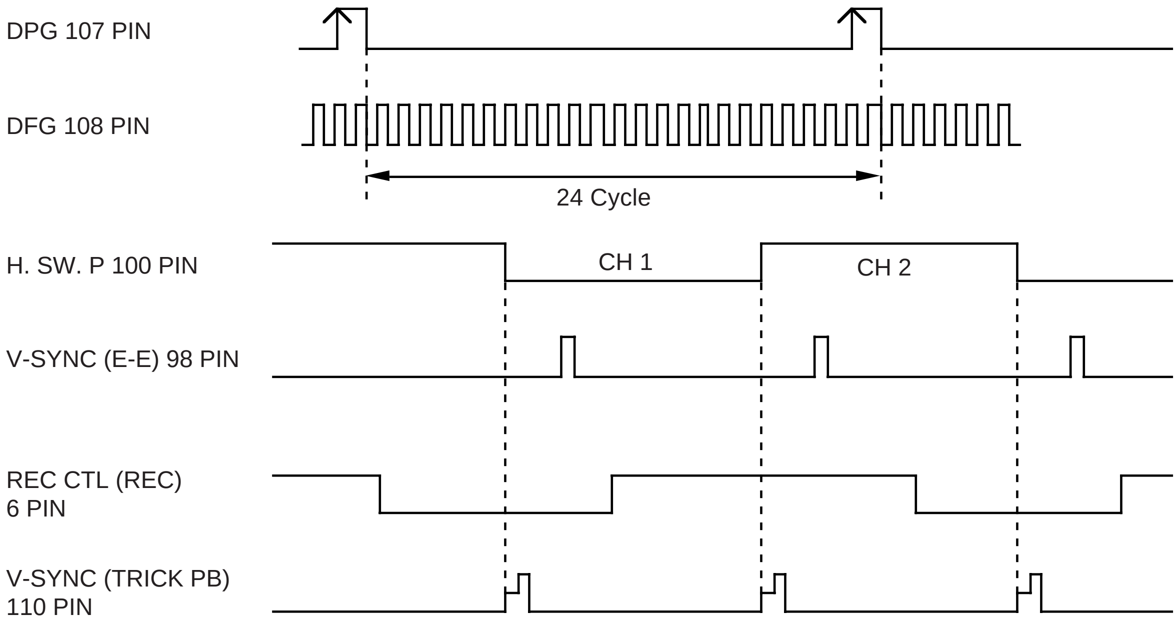
IC DESCRIPTIONS

OEC0096A

101	P85/COMP/B	B	OUT	Output signal of B for OSD.
102	P86/EZTTRG	CYL_SPEED_UP	OUT	Output terminal for correct cylinder during SLOW.
103	P87/DPG	DPG	IN	Input terminal for DRUM PG signal.
104	A.DFG	DFG	IN	Input terminal for DRUM FG signal.
105	VIDEO_FF	VIDEO_H.SW	OUT	Output terminal of signal Video head switching.
106	AUDIO_FF	Hi-Fi_H.SW	OUT	Output terminal of signal HI-FI sound head switching.
107	DRMPWM	DRUM_PWM	OUT	Output terminal for PWM of Drum Motor.
108	CAPPWM	CAP_PWM	OUT	Output terminal for PWM of Capstan Motor.
109	V_PULSE	DUMMY.V.SYNC	OUT	Output terminal of Video Plus signal.
110	VSS	VSS	-	Ground.
111	C.SYNC_IN	C.SYNC	IN	Input terminal for composite C SYNC.
112	VCC	VCC	-	AT +5V.(Back_up 5V)

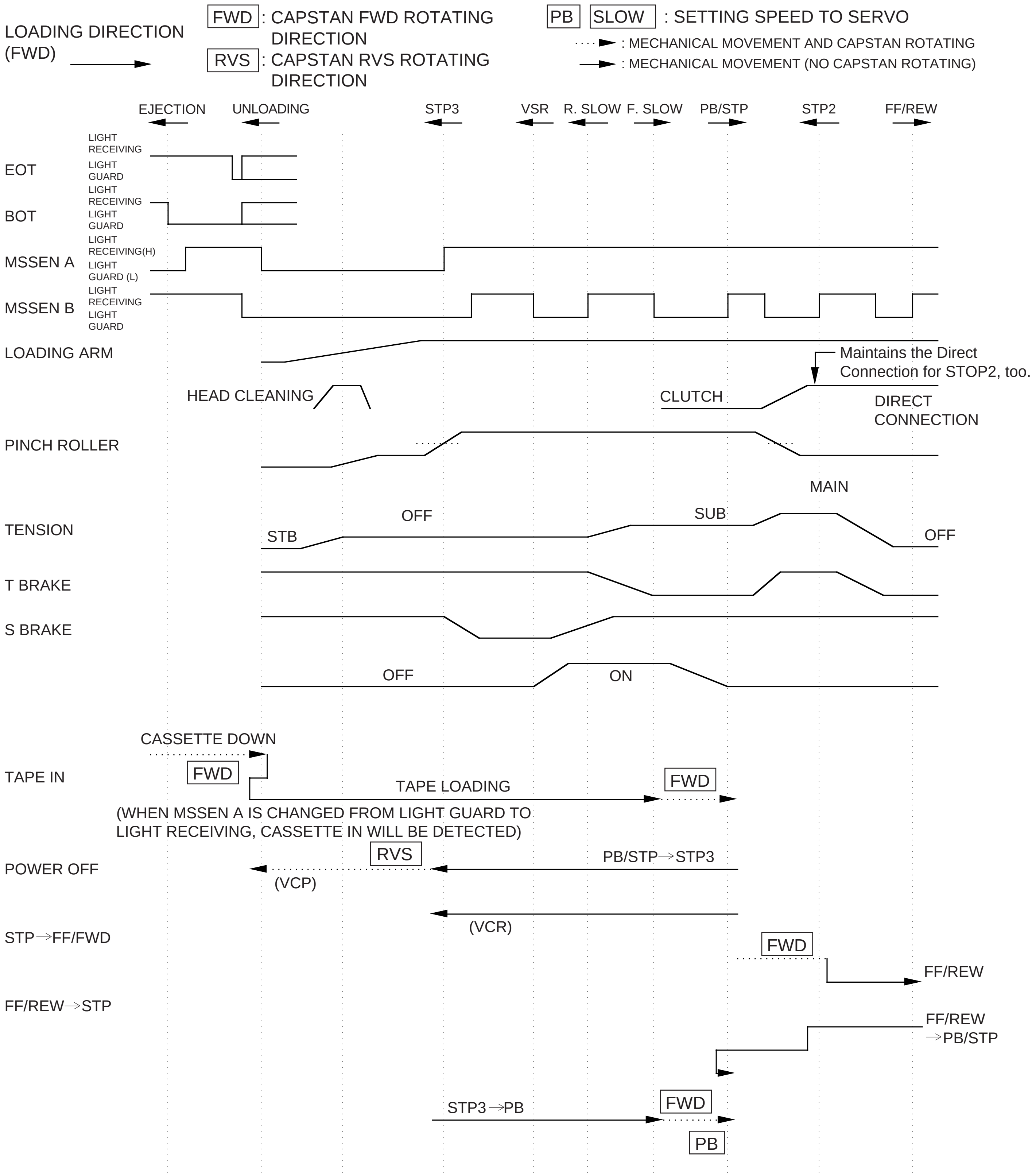
SERVO TIMING CHART

IC1006 (OEC0085B)



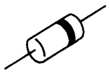
• WAVEFORM CHANGES DEPENDED ON THE TAPE SPEED

SYSTEM SWITCH MODE

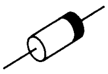


SEMICONDUCTOR BASE CONNECTIONS

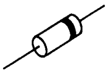
DIODE



1SS133T-77
MTZJ30B T-77
MTZJ33B T-77
MTZJ5.6B T-77
MTZJ6.8B T-77
SB10-03A3



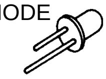
11E1-EIC
11EQS04N-TA1B2
11EQS04TA1B2
11ES1N-TA1B2
1N4005E-6580-G23
RD12FB-T7
RU2YX-V1



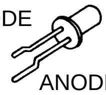
10ELS2N-TA1B2
21DQ09N-FC4
21DQ09N-TA2B1
EG-01CV1
RMPG06J-G3
RU2AM V1



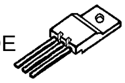
MA367-(TX)



SID1050CM
SLR-342VCT32

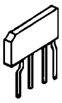


SLZ-345B-02-T1

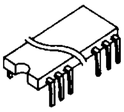


FMV-3FULF027-102

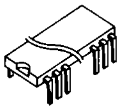
IC



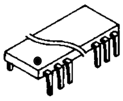
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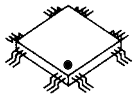
16PIN
TC74HC4053AP



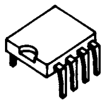
20PIN
ET317
28PIN
ET106
54PIN
LA76812



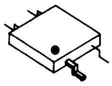
24PIN
LA7567B



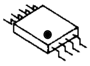
100PIN
HA118217F
112PIN
OEC0096A
44PIN
TDA9605H
TDA9874H



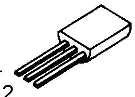
8PIN
S-24C08ADPA-01



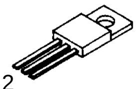
24PIN
LC74793/JM



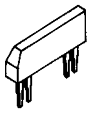
8PIN
NJM2534V(TE2)



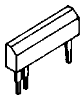
3PIN
RE5VS31A



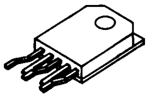
3PIN
KIA7805API
KIA7809API



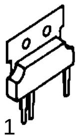
9PIN
LA7510
LA7956



8PIN
BA6955N

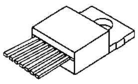


5PIN
STR-F6707

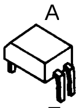


12PIN
AN7522

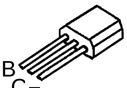
TRANSISTOR



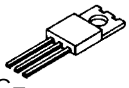
7PIN
LA78040



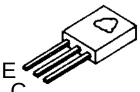
TLP621(GR)



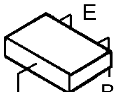
2SC1740SP TP
DTC114TSTP



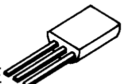
2SD1667(R,S)



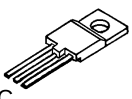
2SC2621(D,E)-RAC



2SA1037AKT146R,S
2SC2412KT146 R,S
2SC2412KT147(R,S)
2SC2814(F3,F4)-T
DTC124EKT147



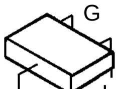
2SA1015Y(TPE2)
2SA1371(D,E)-AE
2SA608KF-NP-AA
2SB698-AA
2SB892(S,T)-AE
2SC1317(Q,R,S)-T
2SC1815Y(TPE2)
2SC2909(S,T)-AA
2SC3000-AA
2SC3331(S,T,U)-A
2SC945(C)-T(P,Q)
2SD734(E,F)-AA



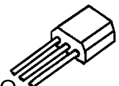
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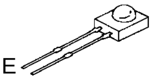
RPI-352Q01R



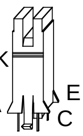
DTA124EKAT146
DTC114EKAT146
DTC114EKT147
DTC114TKAT146
DTC124EKAT146
DTC143EKAT146
DTC143TKAT146
DTC144EKT147



DTC114ESTP

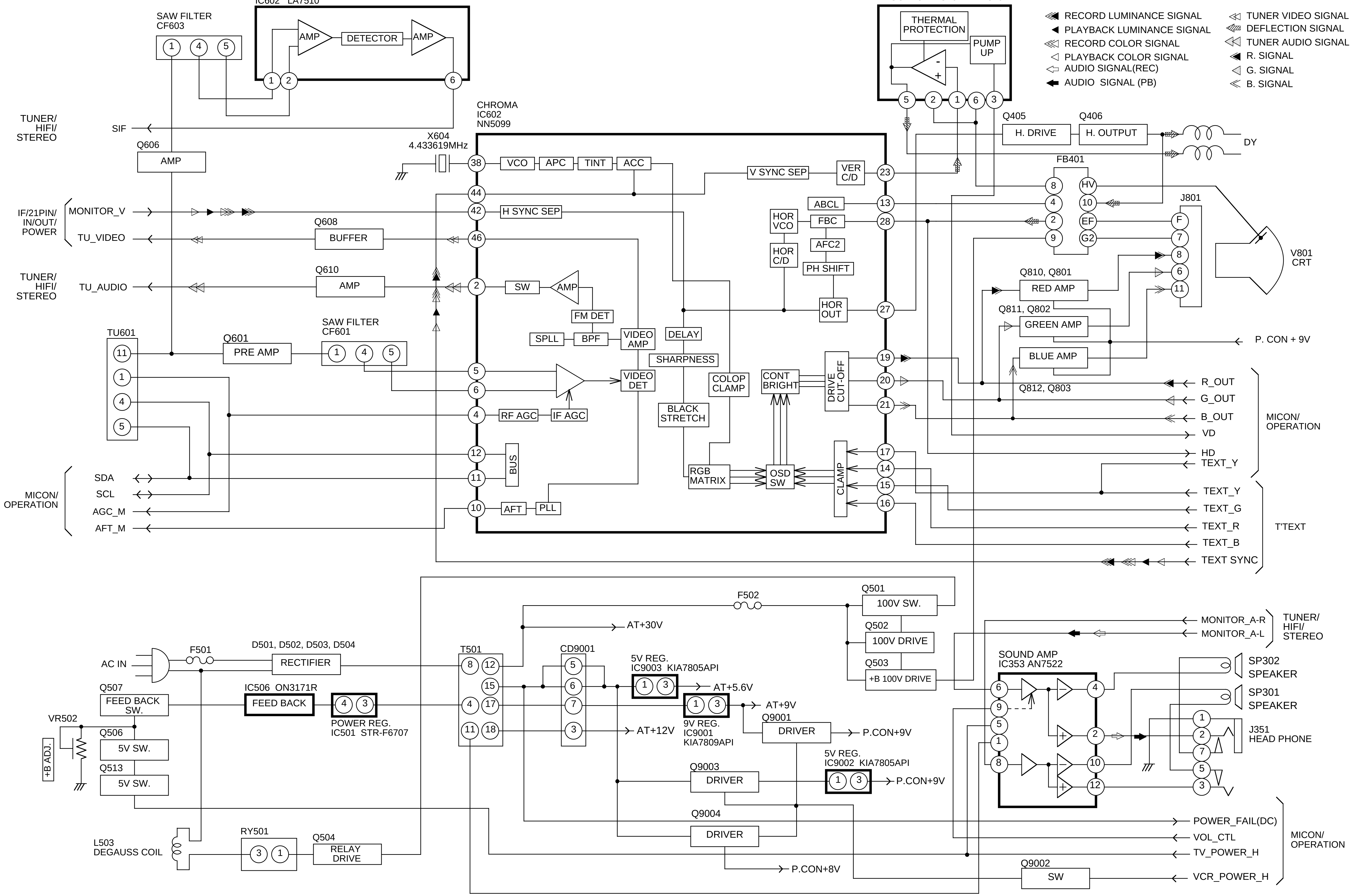


PNA2604M010R

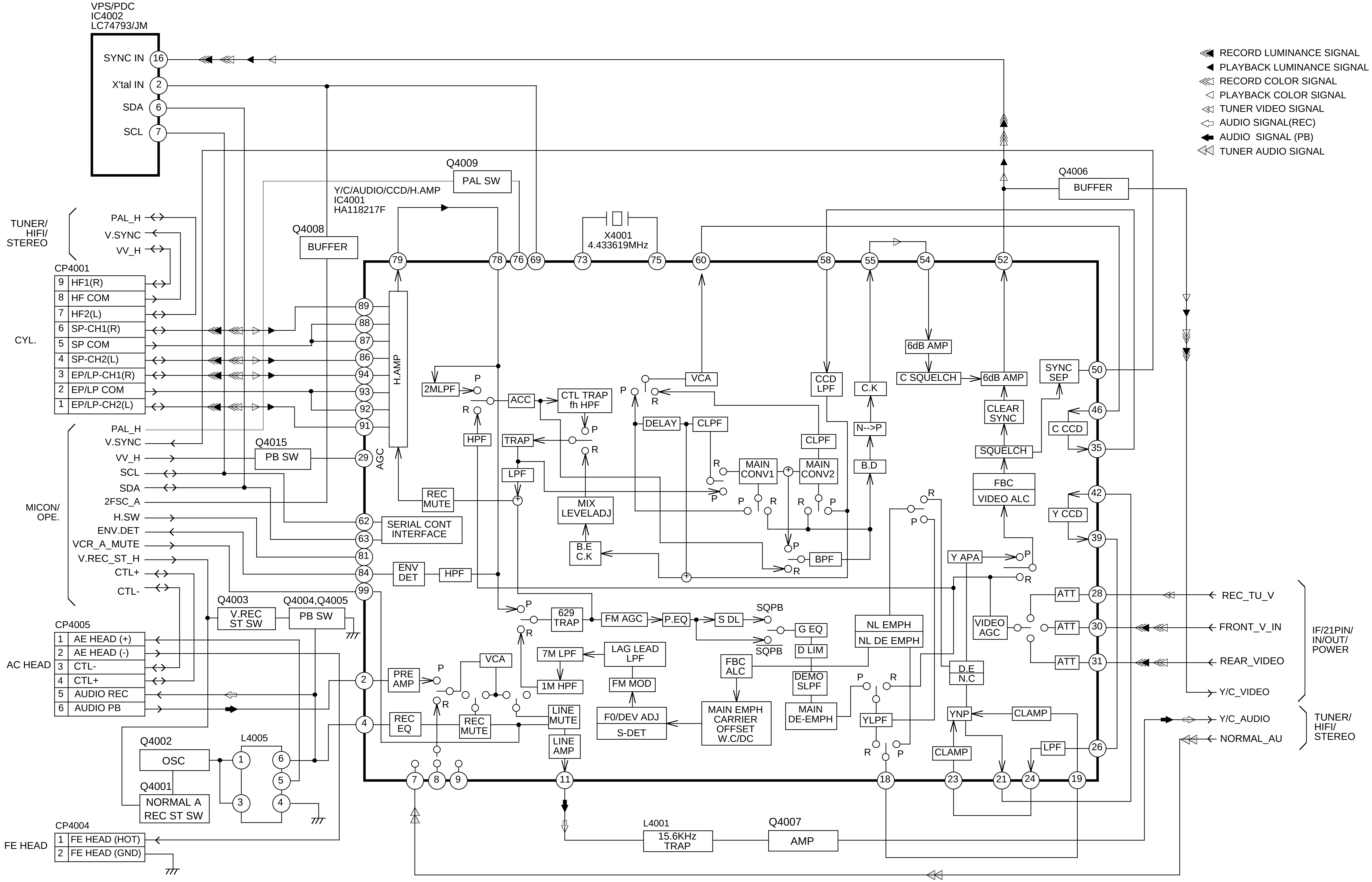


RPI-301

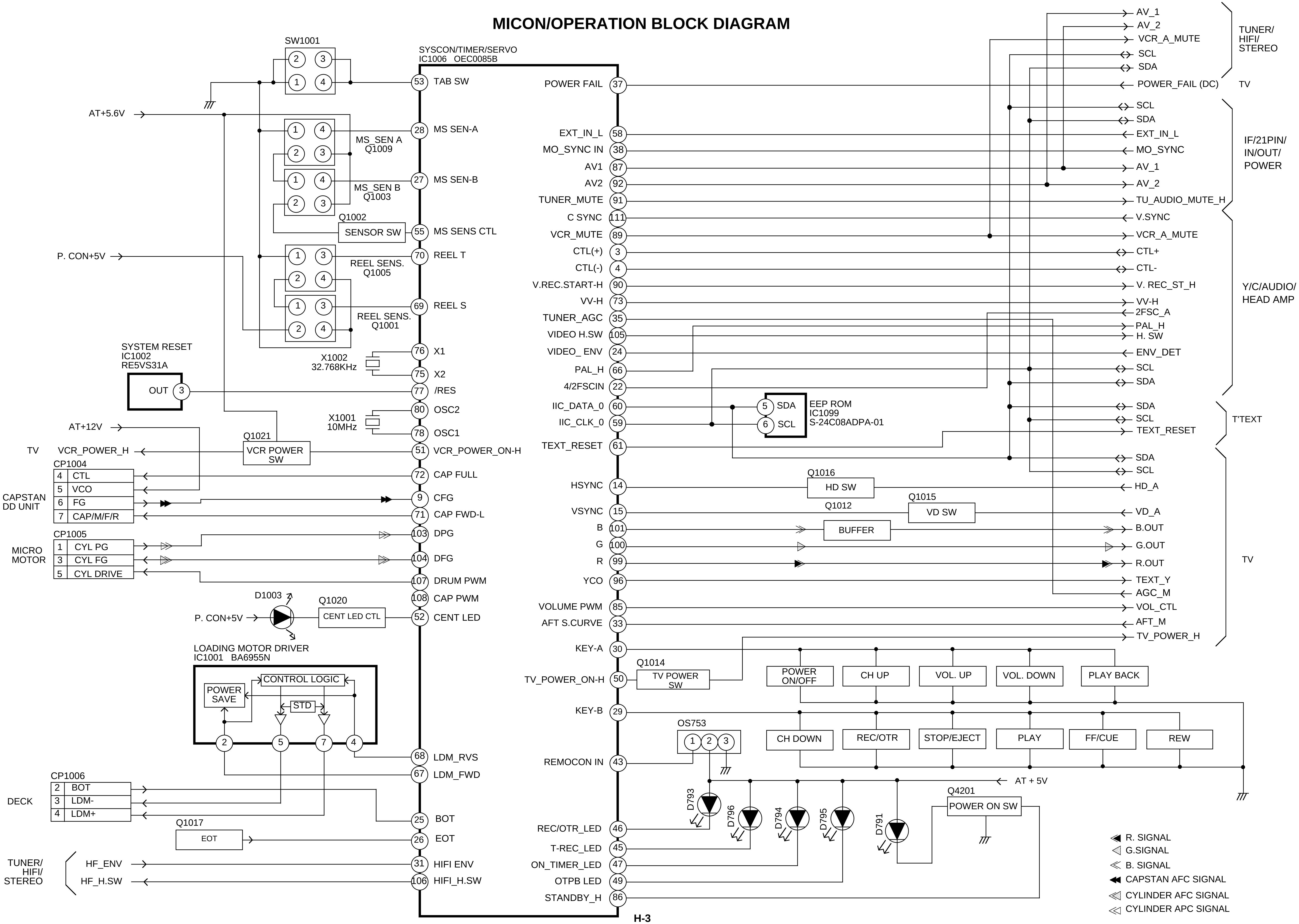
TV BLOCK DIAGRAM



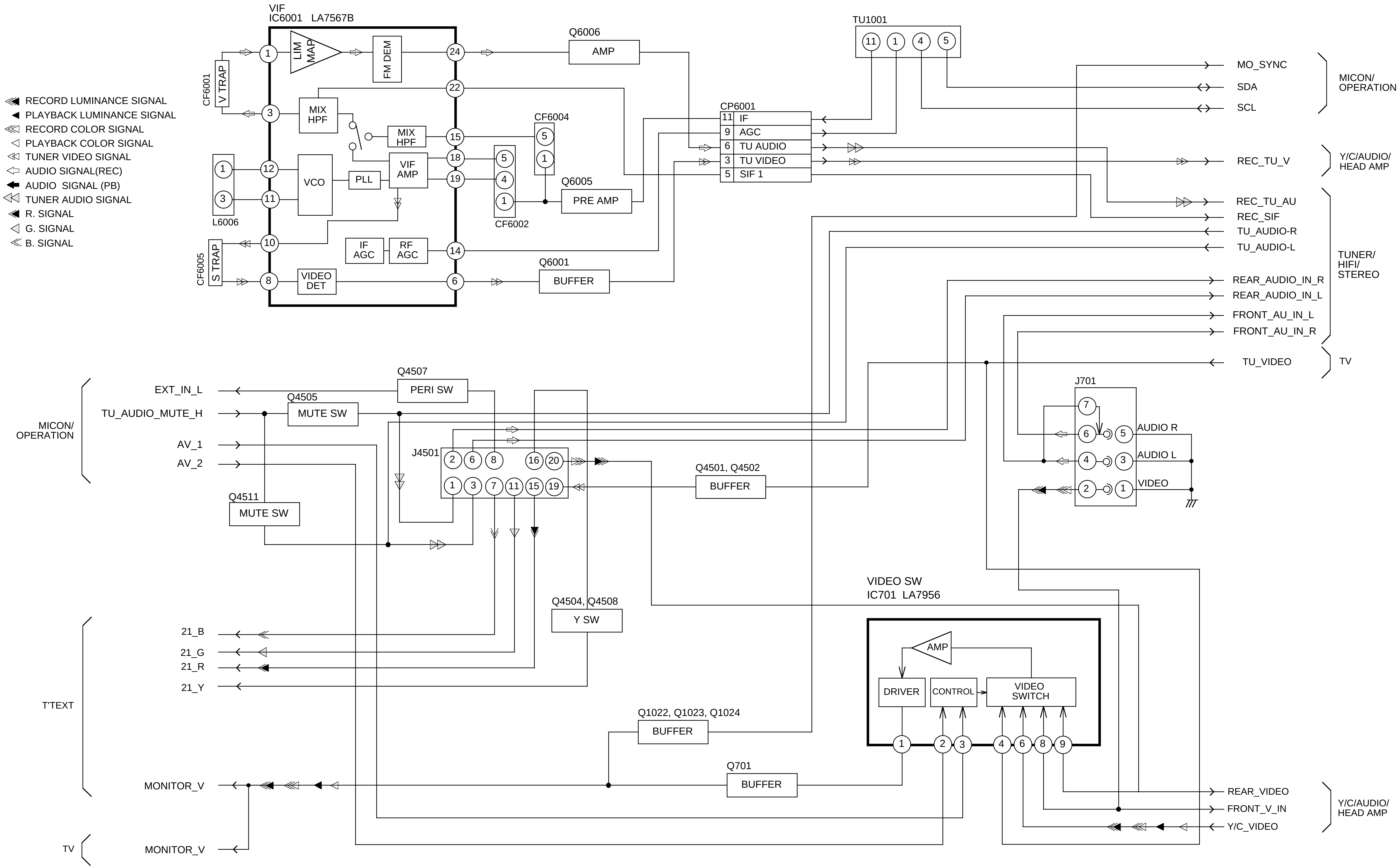
Y/C/AUDIO/HEAD AMP BLOCK DIAGRAM



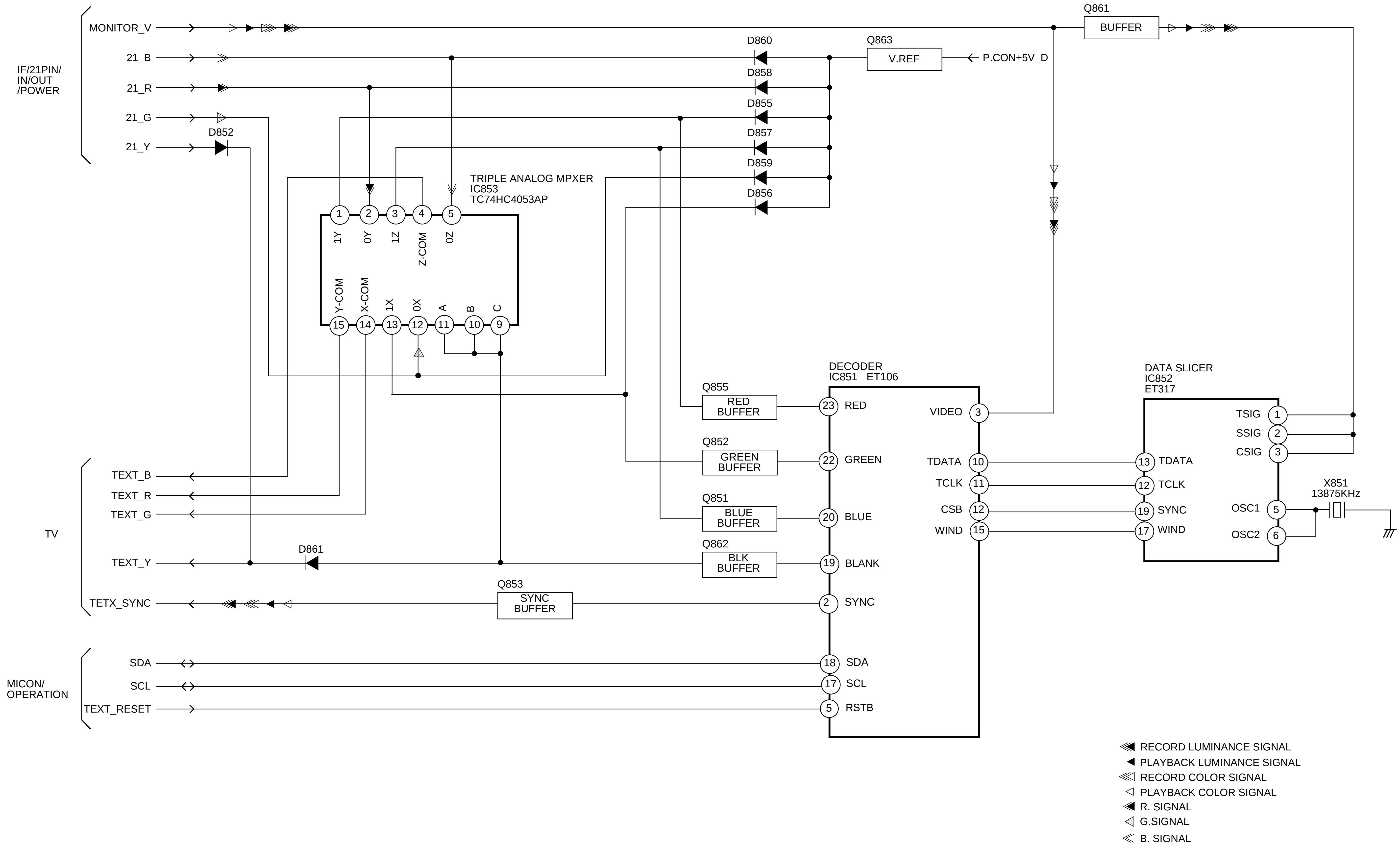
MICON/OPERATION BLOCK DIAGRAM



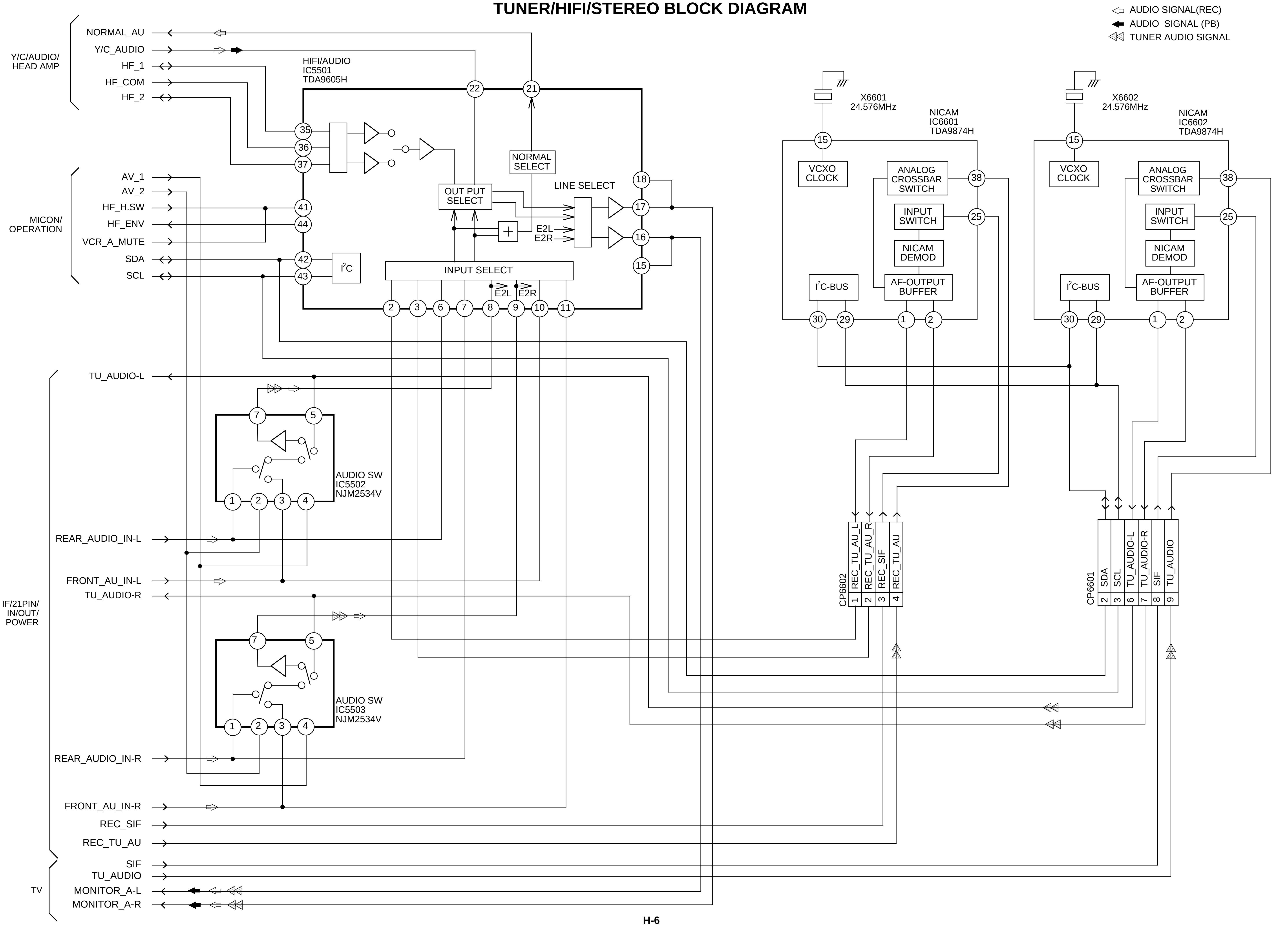
IF/21PIN/IN/OUT/POWER BLOCK DIAGRAM



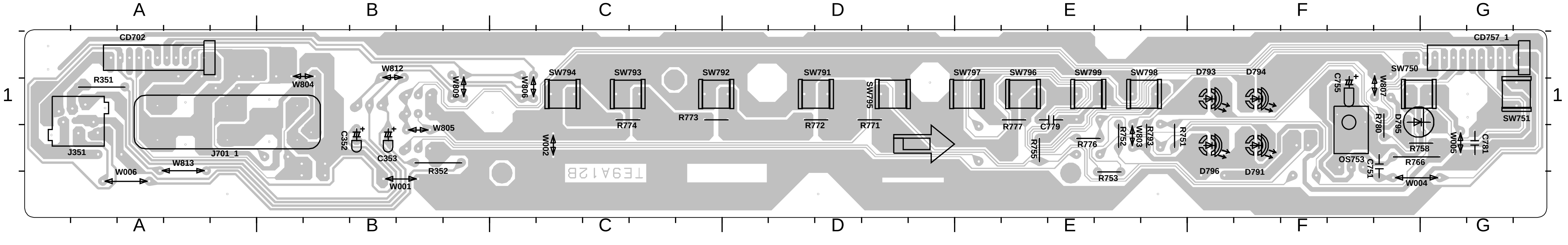
T'TEXT BLOCK DIAGRAM



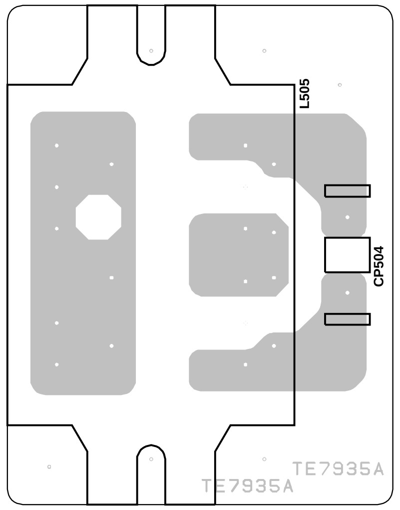
TUNER/HIFI/STEREO BLOCK DIAGRAM



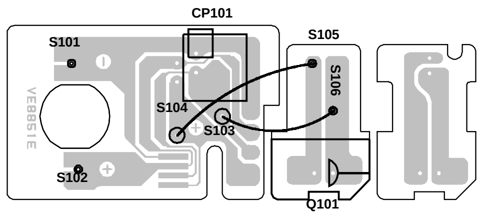
OPERATION
SOLDER SIDE



TV POWER
SOLDER SIDE

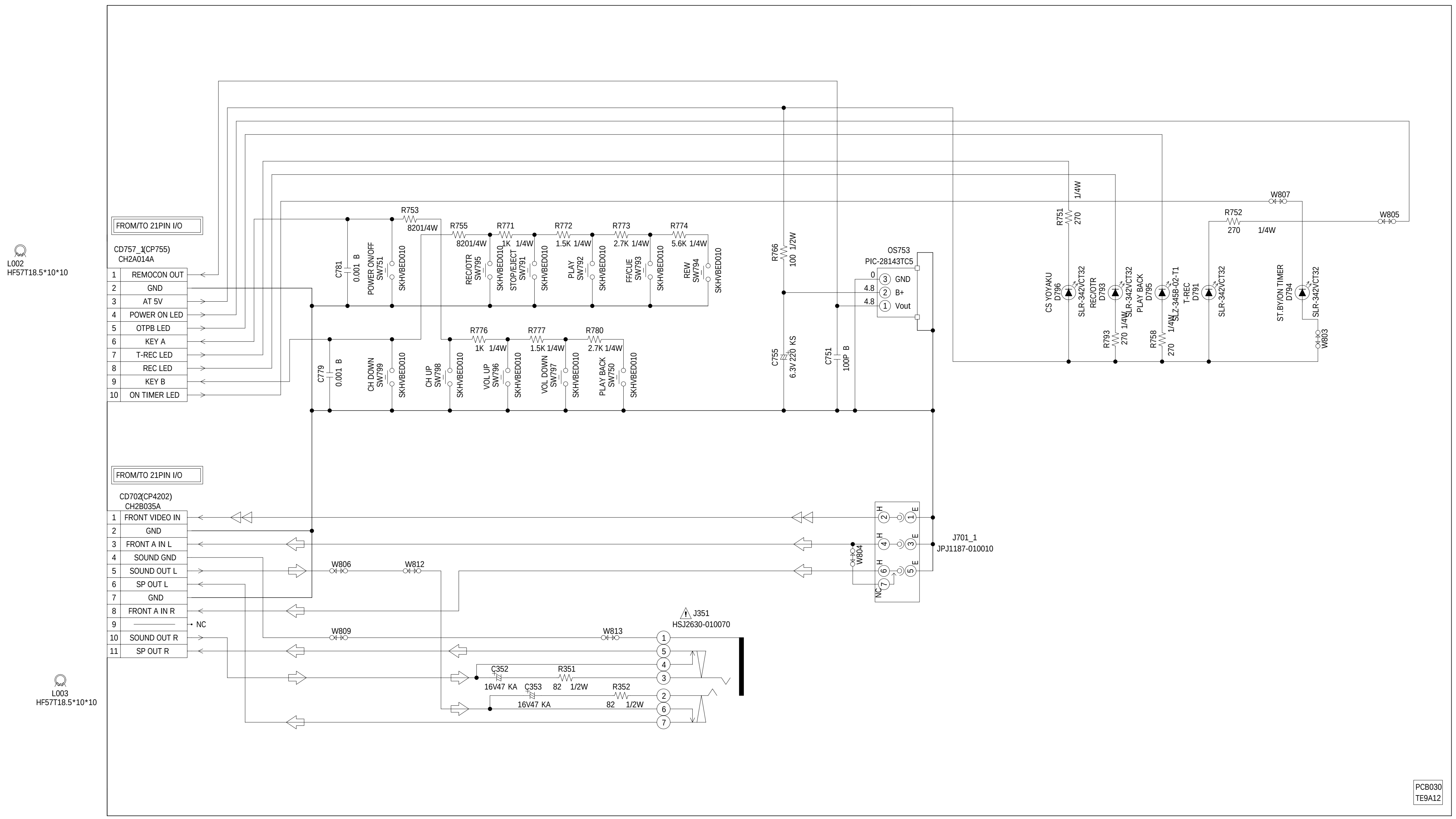


DECK
SOLDER SIDE



OPERATION SCHEMATIC DIAGRAM

(OPERATION PCB)



◁◁ TUNER VIDEO SIGNAL
⇦ AUDIO SIGNAL

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

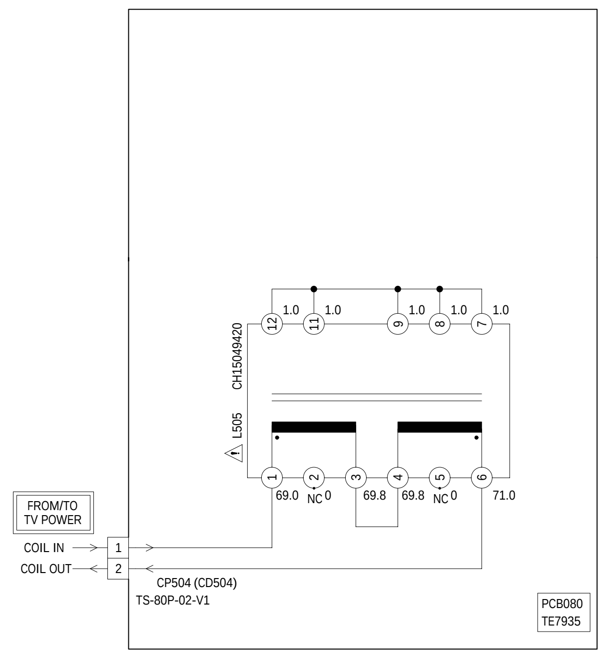
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE。

CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED IN PARTS LIST ONLY 。

ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES.

CHOKE COIL SCHEMATIC DIAGRAM

(TV POWER PCB)



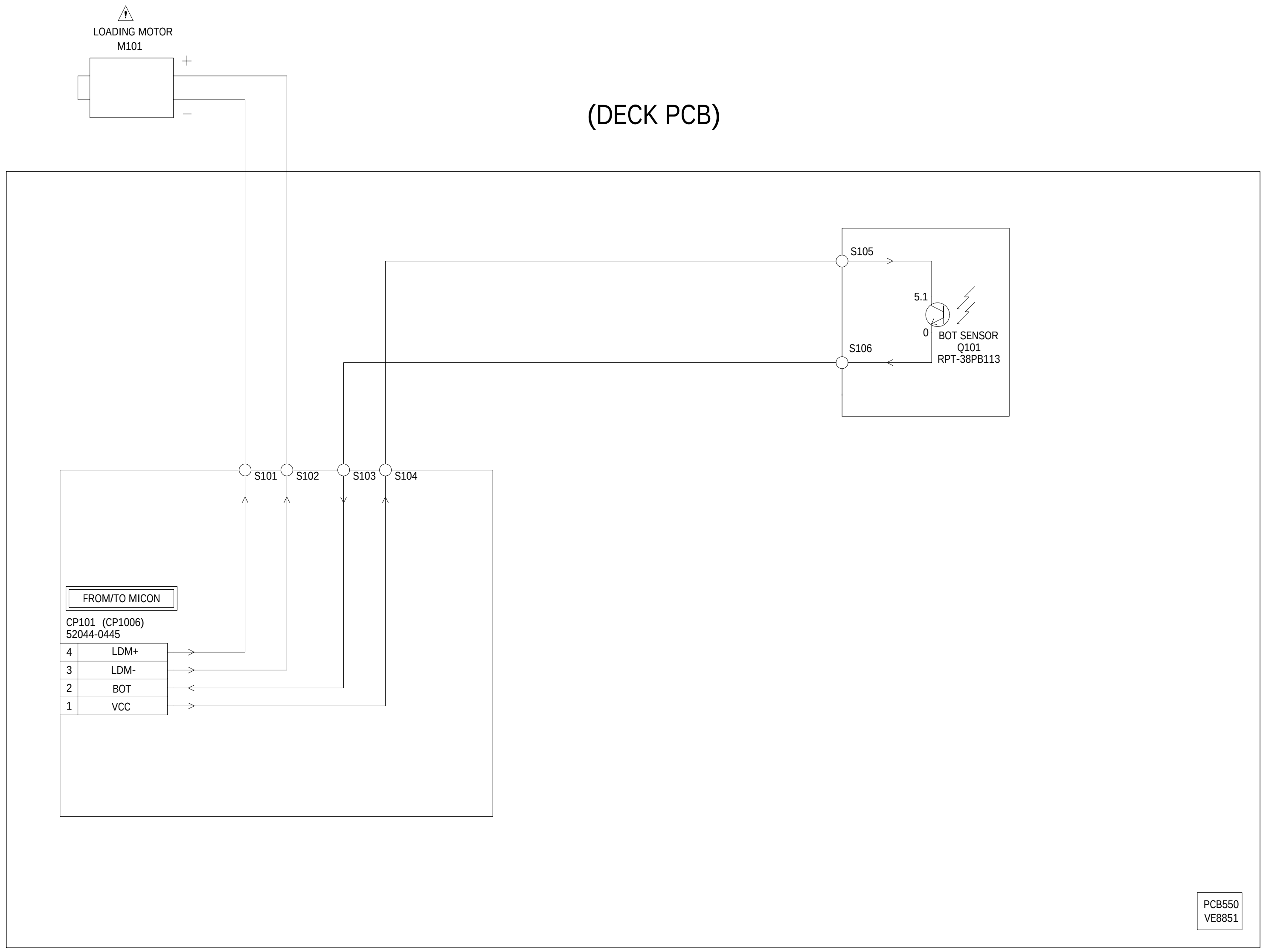
NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE。

CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED IN PARTS LIST ONLY 。

ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES。

DECK SCHEMATIC DIAGRAM



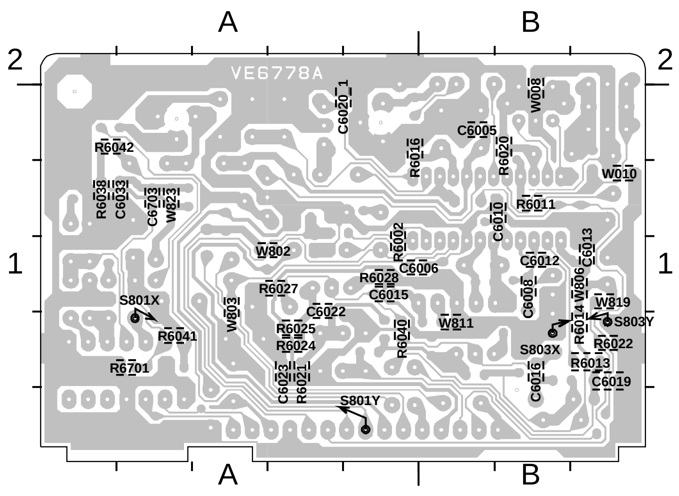
CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED IN PARTS LIST ONLY 。

ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES。

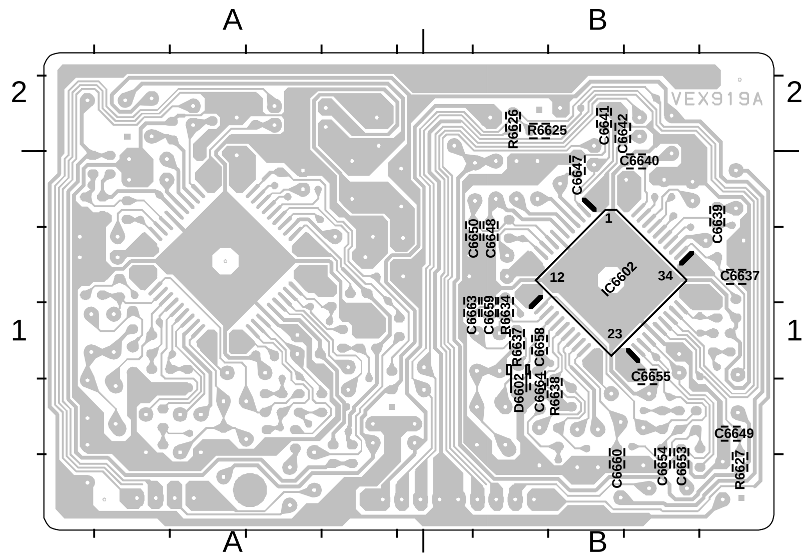
NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK。

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE 。

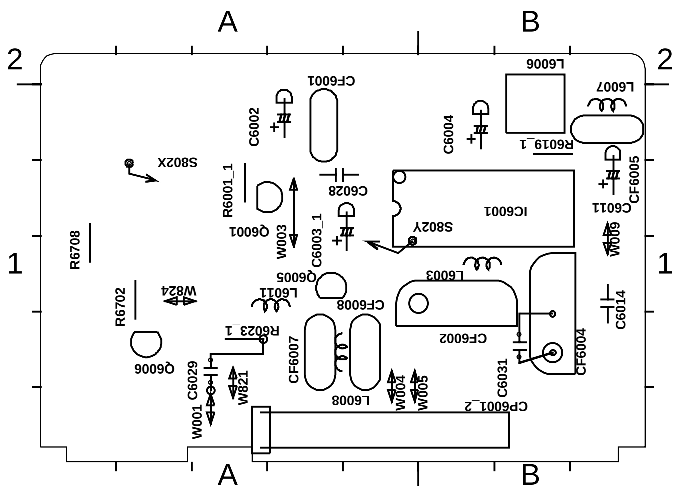
IF



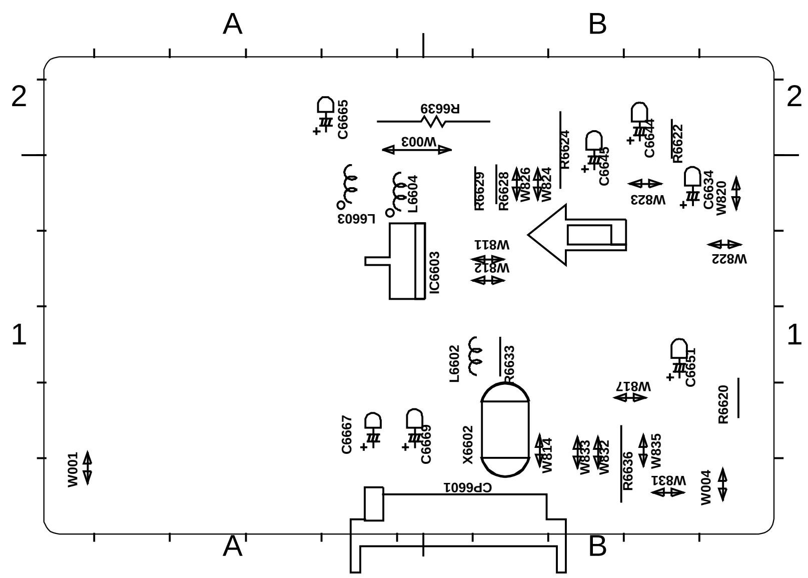
STEREO



IF

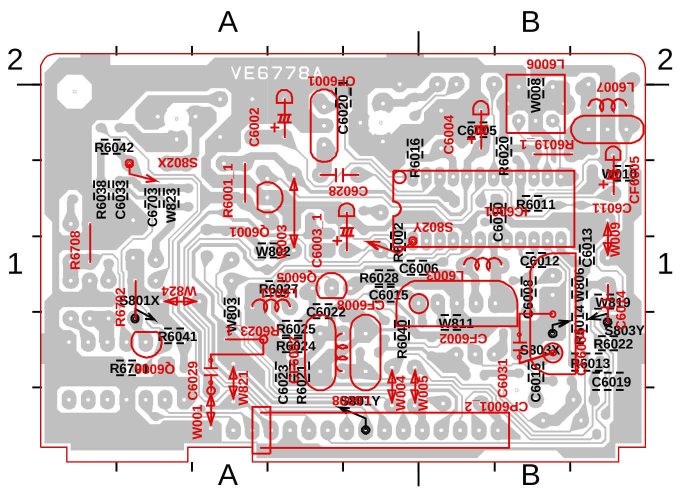


STEREO

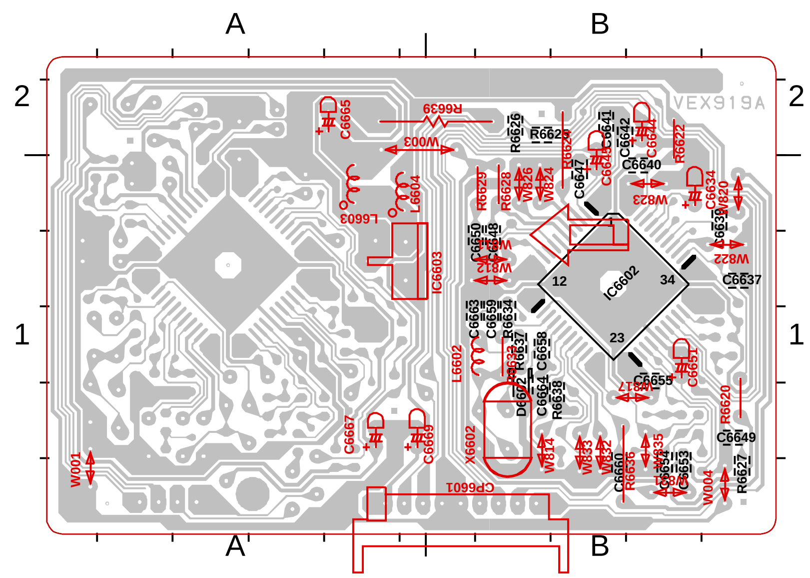


PRINTED CIRCUIT BOARDS

IF

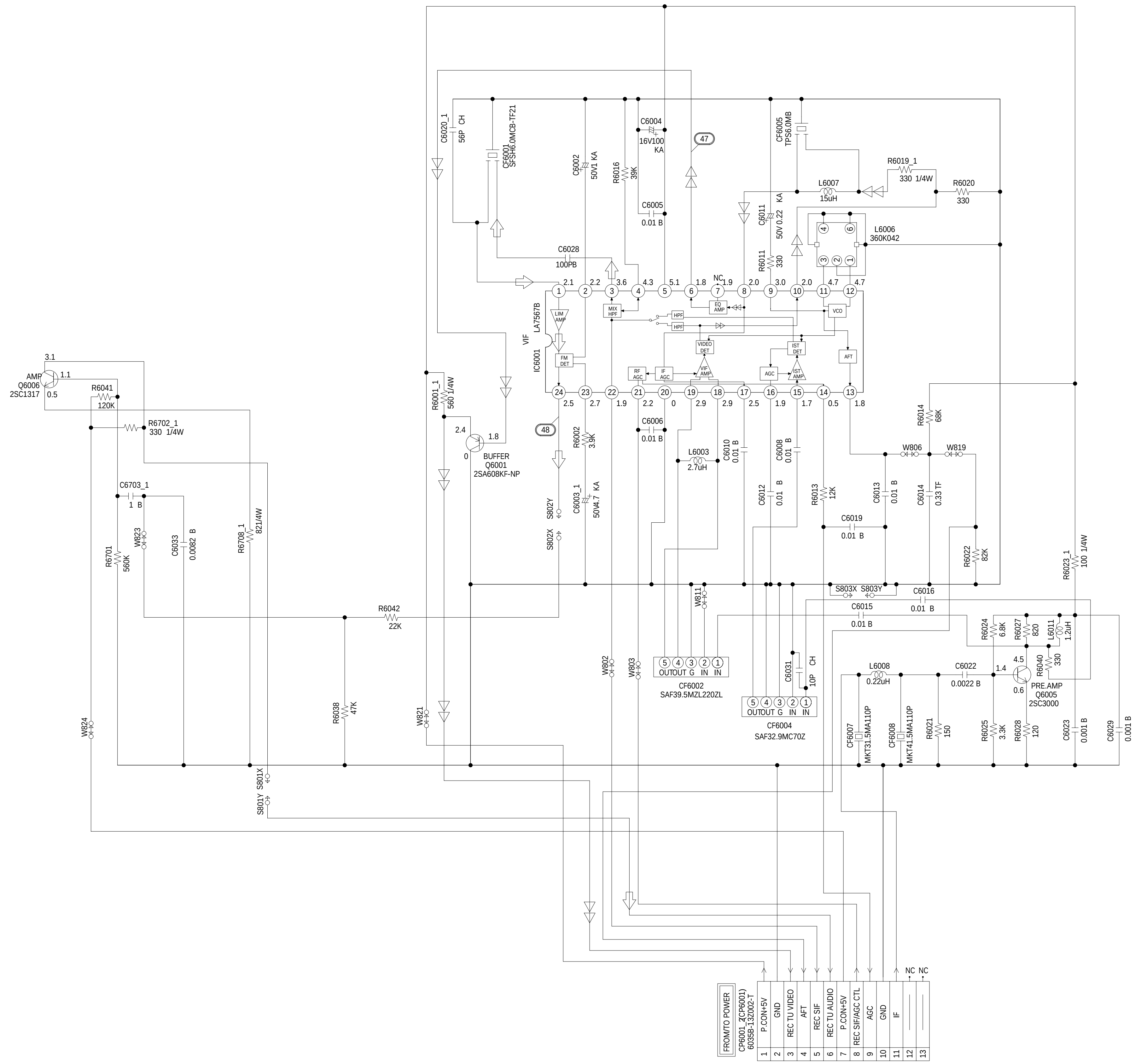


STEREO



IF SCHEMATIC DIAGRAM

(IF PCB)



NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

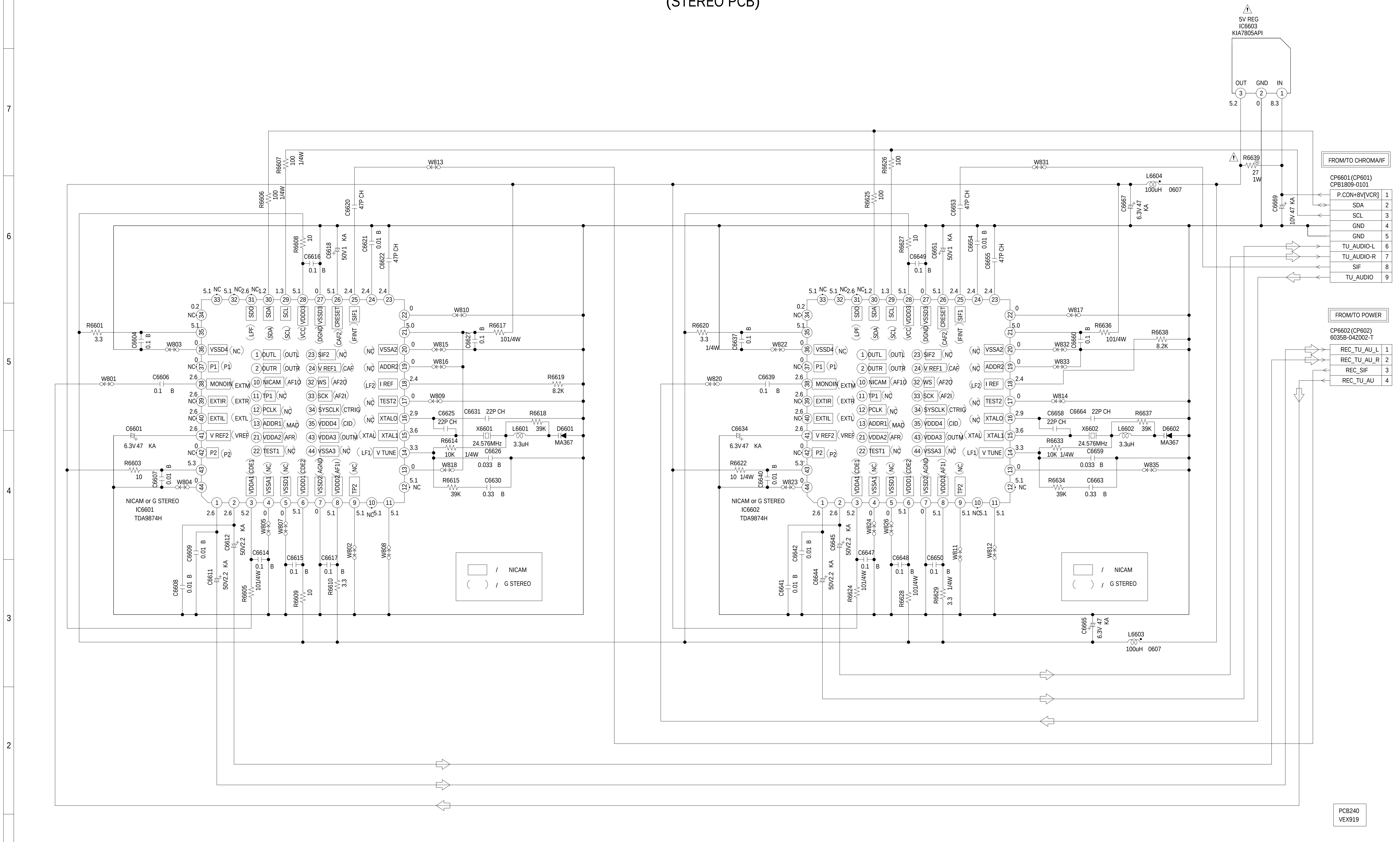
TUNER VIDEO SIGNAL

AUDIO SIGNAL(REC)

PCB350
VE6778

STEREO SCHEMATIC DIAGRAM

(STEREO PCB)



ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES.

CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED IN PARTS LIST ONLY .

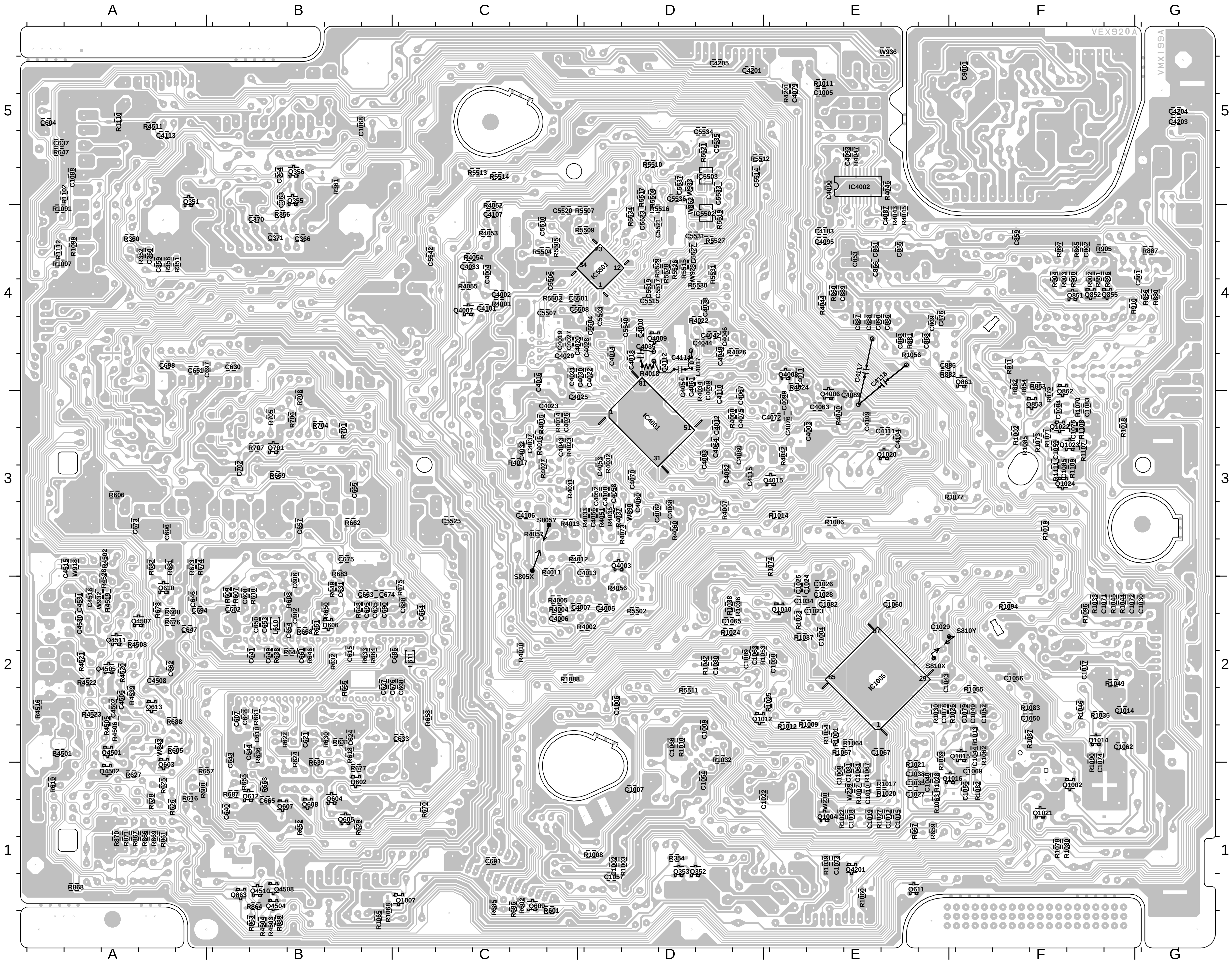
NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE .

⇦ AUDIO SIGNAL(REC)

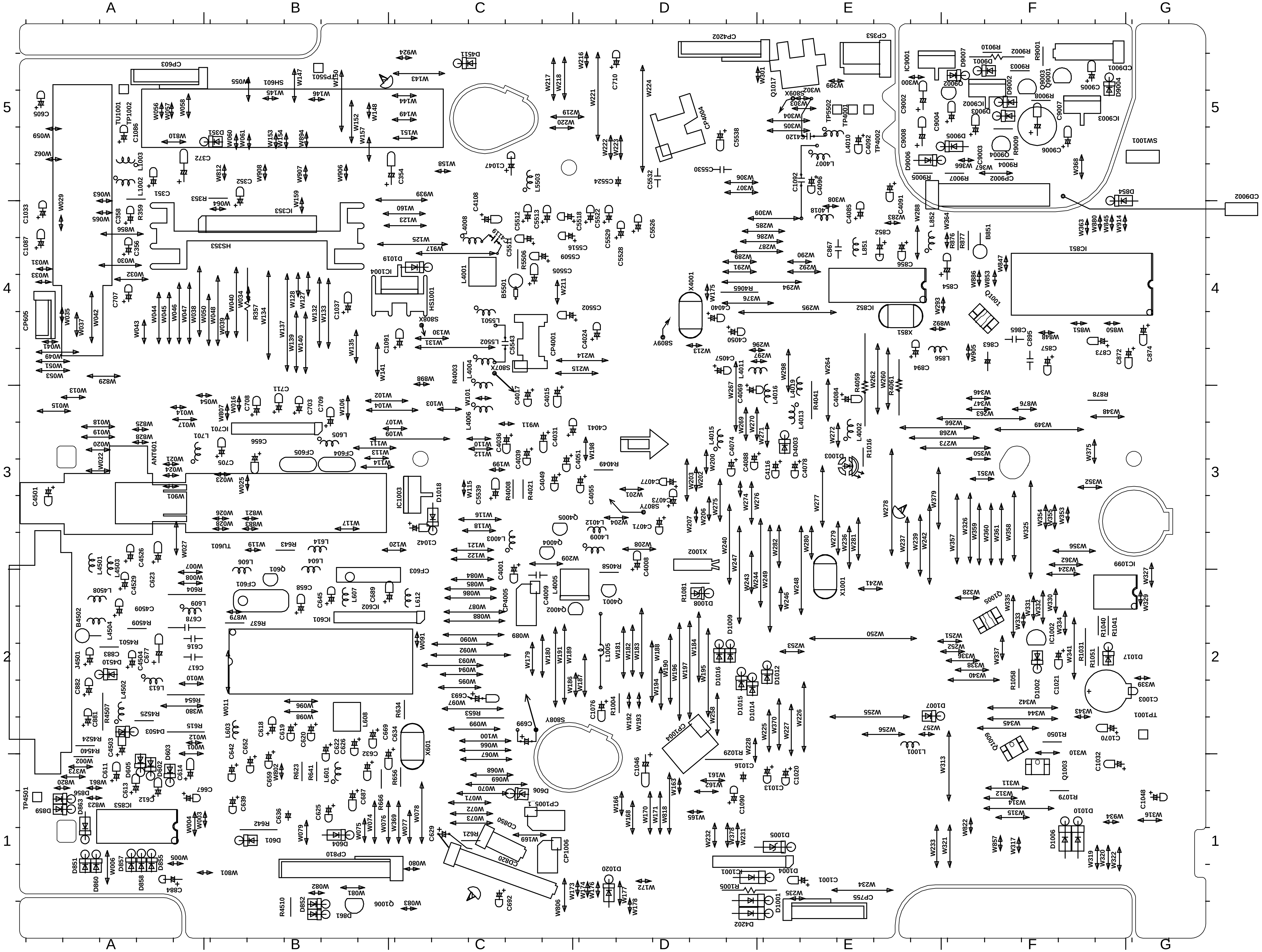
PRINTED CIRCUIT BOARDS

SYSCON/SUB POWER

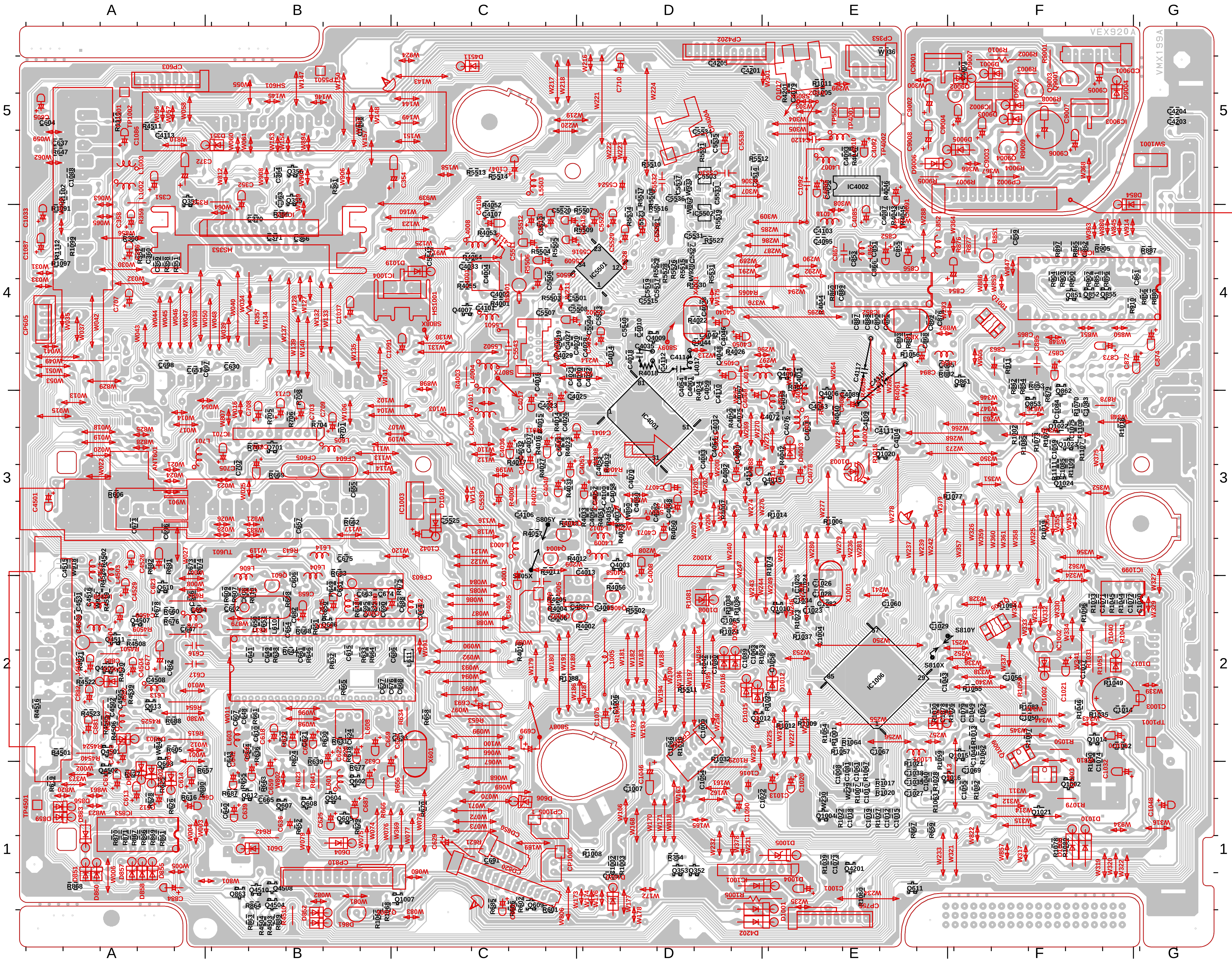


PRINTED CIRCUIT BOARDS

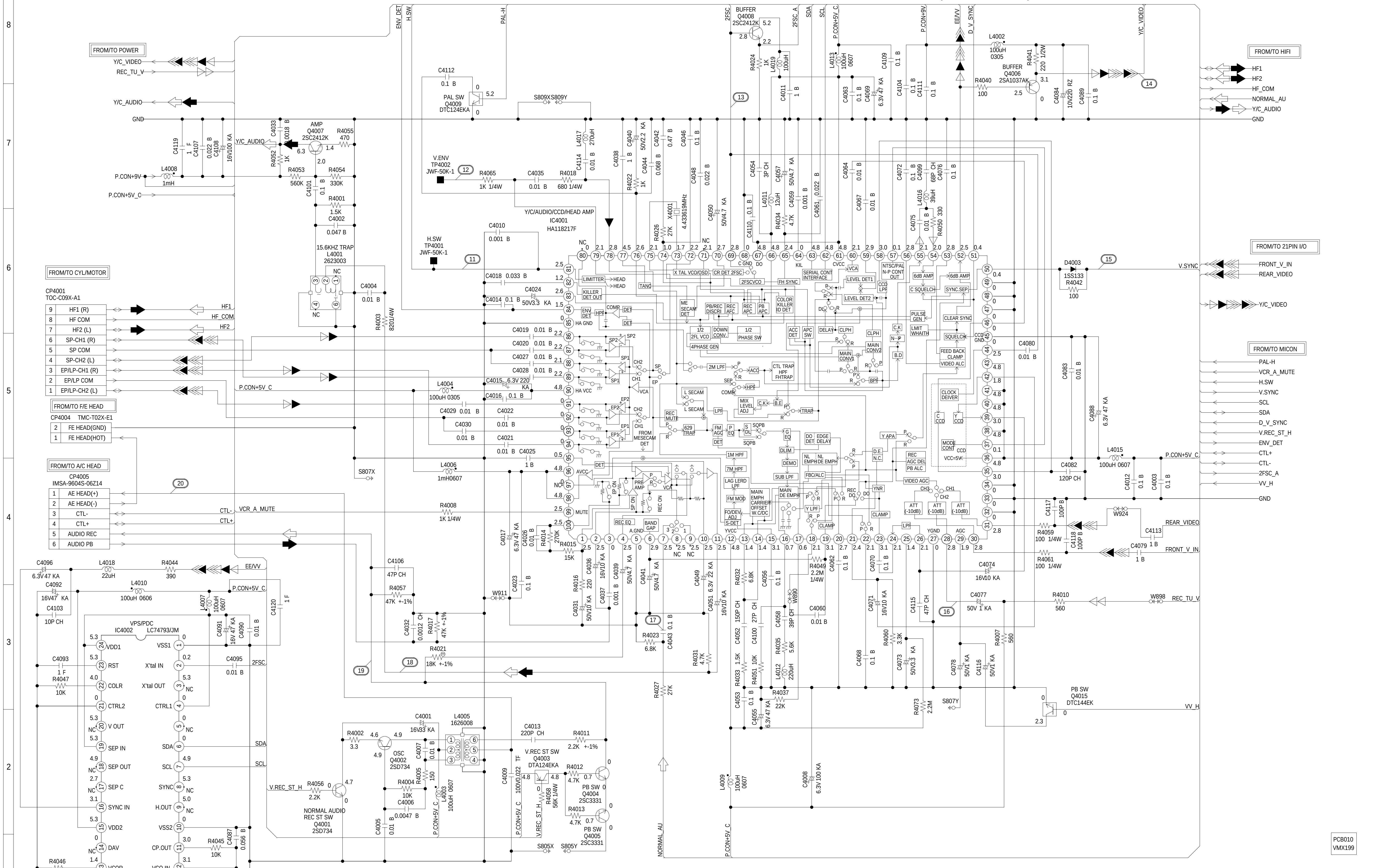
SYSCON/SUB POWER



PRINTED CIRCUIT BOARDS
SYSCON/SUB POWER



Y/C/AUDIO/HEAD AMP SCHEMATIC DIAGRAM (SYSCON PCB)



NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

NOTE: THE RESISTOR MARKED F IS FUSE RESISTOR. THE ALUMI ELECTROLYTIC CAPACITOR MARKED NP IS NON POLAR ONE.

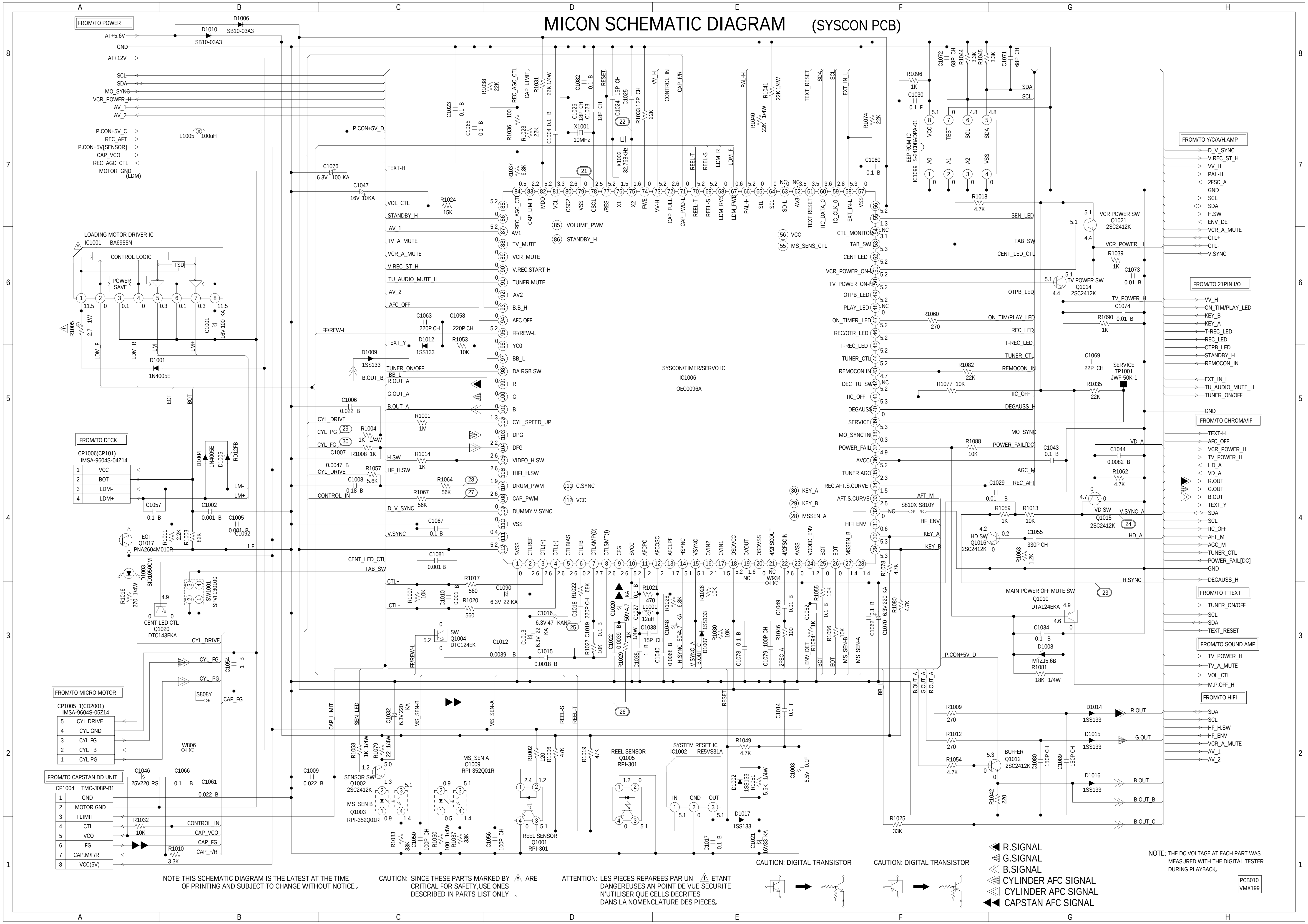
CAUTION: DIGITAL TRANSISTOR

CAUTION: DIGITAL TRANSISTOR

- RECORD LUMINANCE SIGNAL
- PLAYBACK LUMINANCE SIGNAL
- RECORD COLOR SIGNAL
- PLAYBACK COLOR SIGNAL
- AUDIO SIGNAL(REC)
- AUDIO SIGNAL(PB)
- TUNER VIDEO SIGNAL
- TUNER AUDIO SIGNAL

PCB010
VMX199

MICON SCHEMATIC DIAGRAM (SYSCON PCB)



NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE。

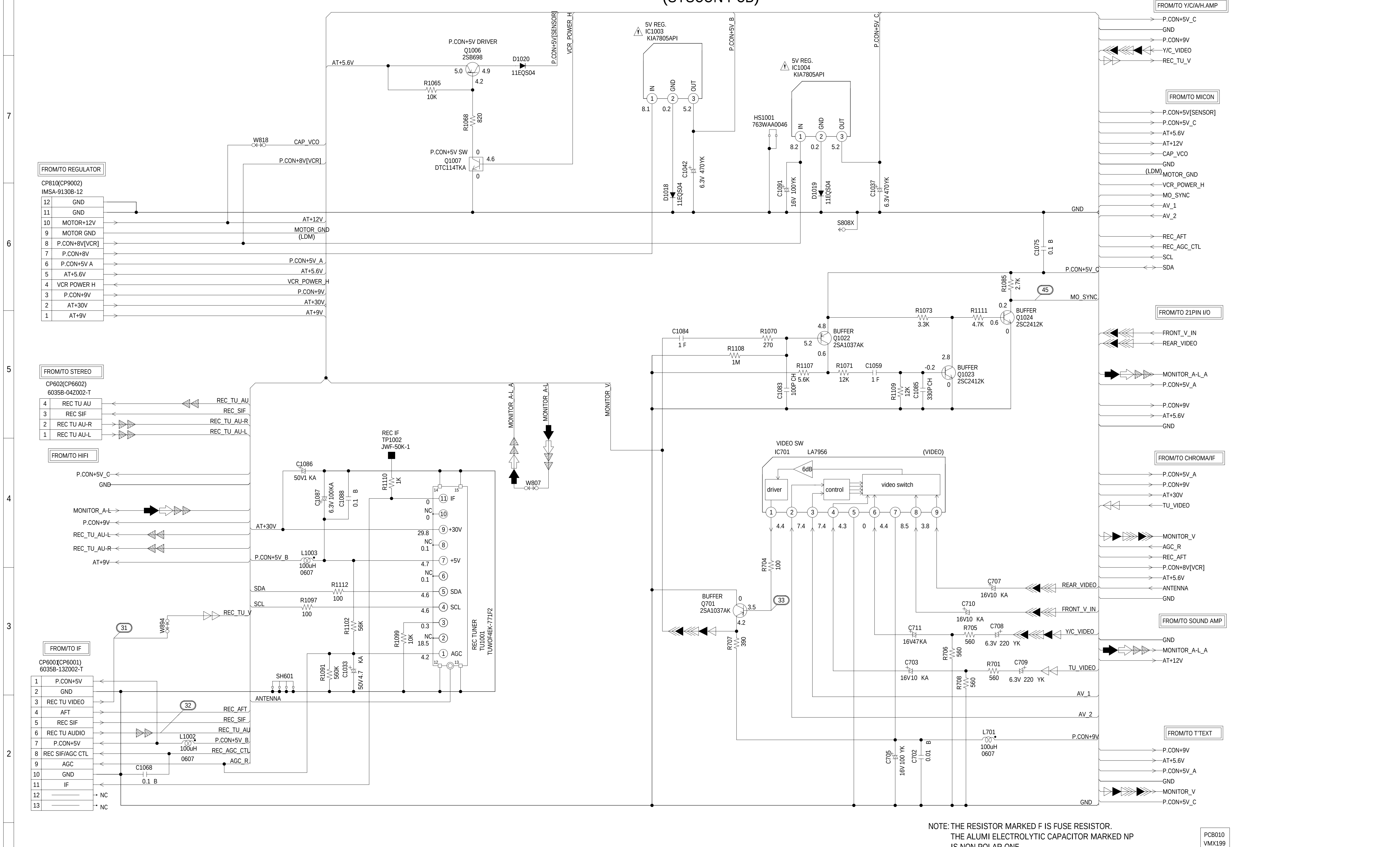
CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED IN PARTS LIST ONLY。

ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES。

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK。

POWER SCHEMATIC DIAGRAM

(SYSCON PCB)



NOTE: THE RESISTOR MARKED F IS FUSE RESISTOR.
THE ALUMI ELECTROLYTIC CAPACITOR MARKED NP IS NON POLAR ONE.

PCB010
VMX199

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK。

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE。

CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED IN PARTS LIST ONLY。

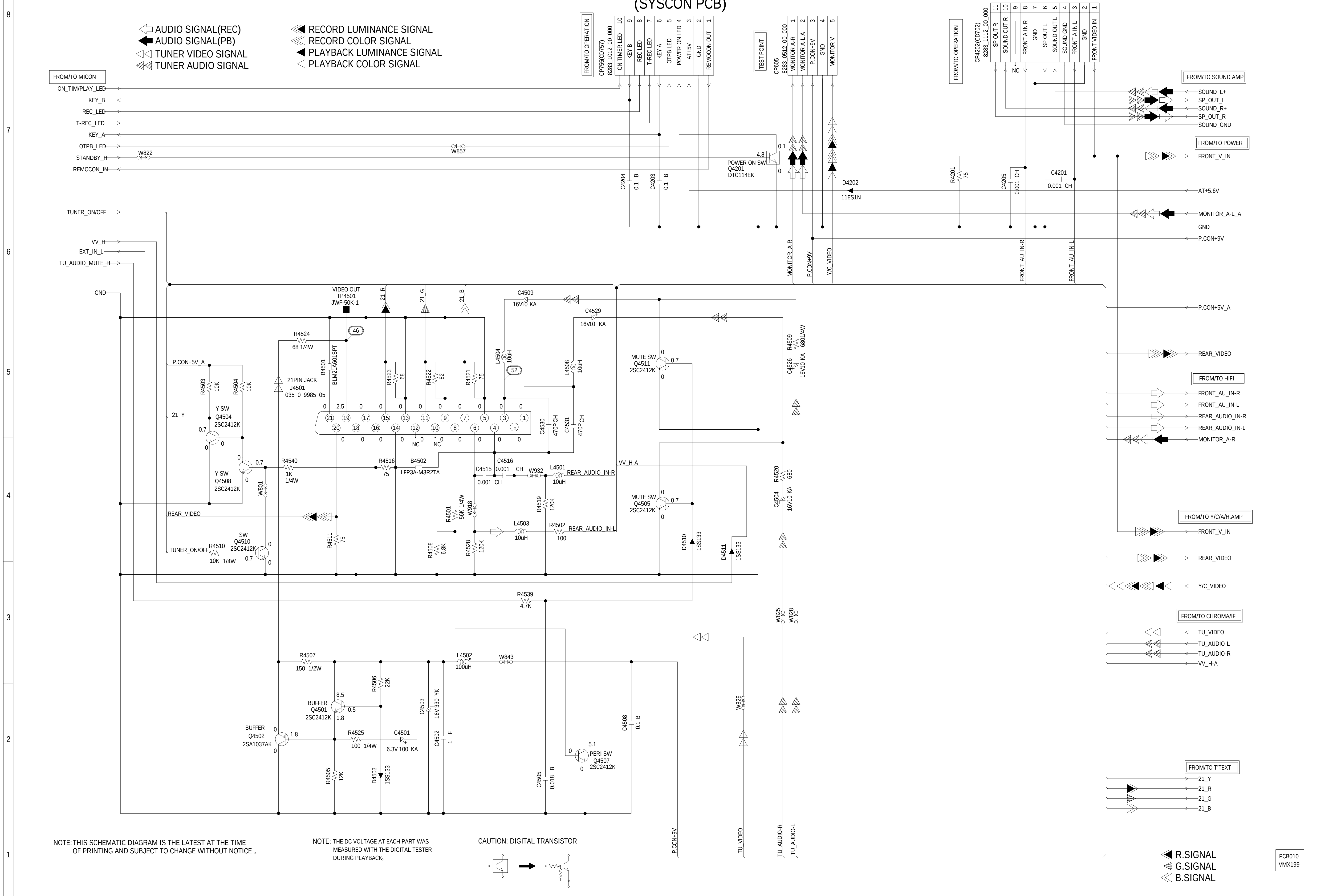
ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES。

CAUTION: DIGITAL TRANSISTOR

TUNER VIDEO SIGNAL
TUNER AUDIO SIGNAL
AUDIO SIGNAL(REC)
AUDIO SIGNAL(PB)
RECORD LUMINANCE SIGNAL
PLAYBACK LUMINANCE SIGNAL
RECORD COLOR SIGNAL
PLAYBACK COLOR SIGNAL

21PIN IN/OUT SCHEMATIC DIAGRAM

(SYSCON PCB)

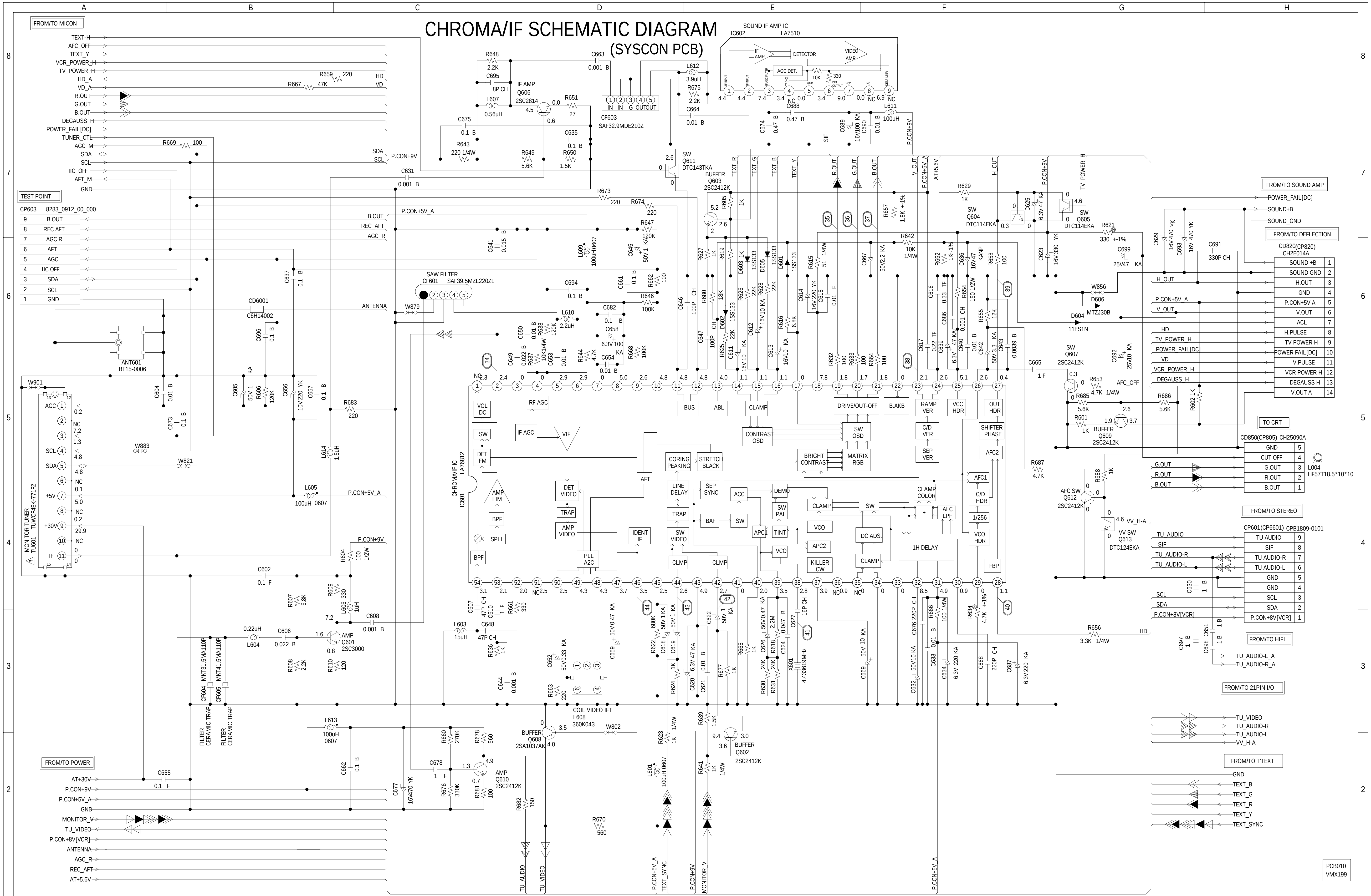


NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE。

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK。

CAUTION: DIGITAL TRANSISTOR

CHROMA/IF SCHEMATIC DIAGRAM
(SYSCON PCB)



NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED IN PARTS LIST ONLY.

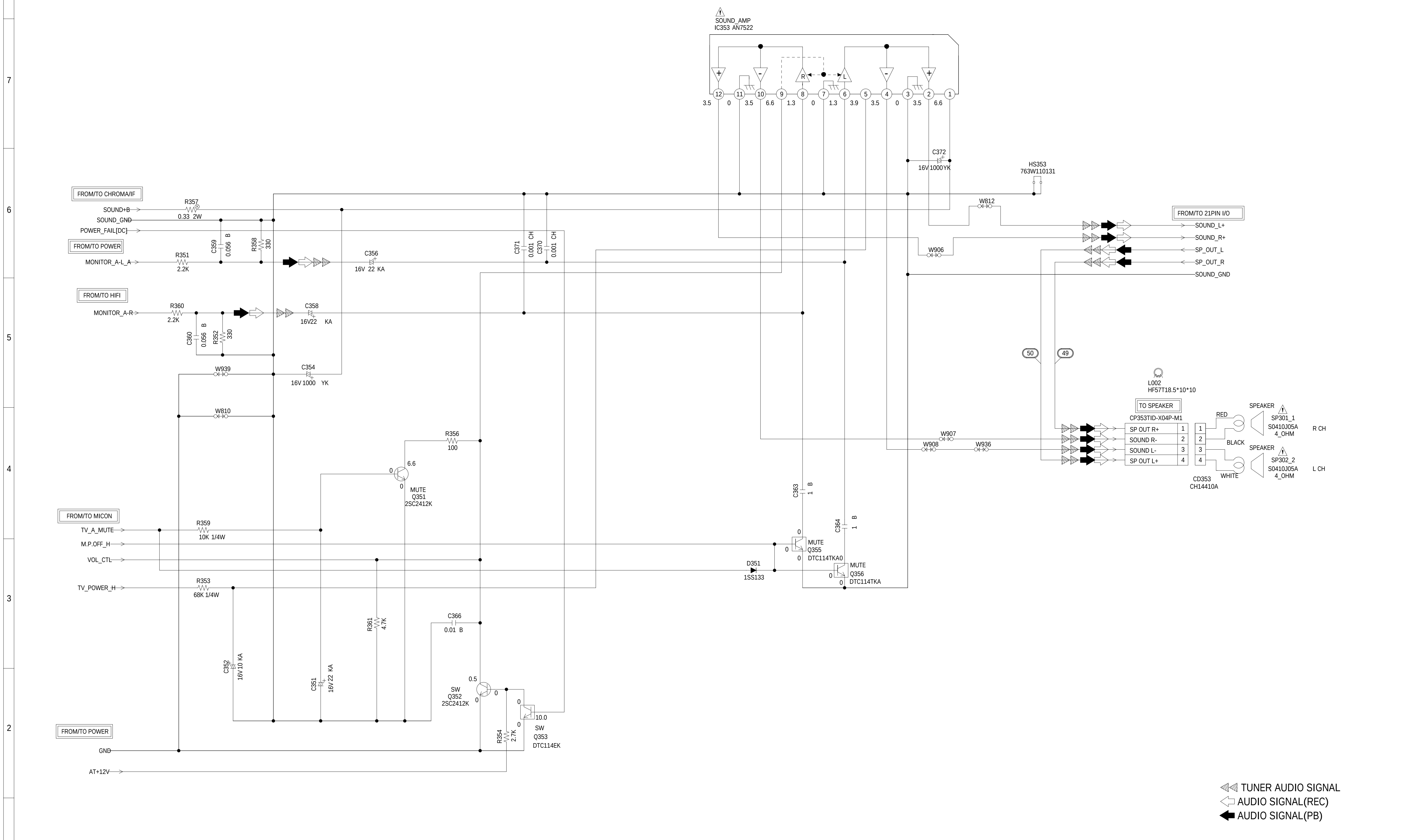
ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES.

CAUTION: DIGITAL TRANSISTOR

AUDIO SIGNAL(REC) · AUDIO SIGNAL(PB) · TUNER AUDIO SIGNAL · TUNER VIDEO SIGNAL · RECORD LUMINANCE SIGNAL · RECORD COLOR SIGNAL · PLAYBACK COLOR SIGNAL · PLAYBACK LUMINANCE SIGNAL · R.SIGNAL · G.SIGNAL · B.SIGNAL

SOUND AMP SCHEMATIC DIAGRAM

(SYSCON PCB)



CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED IN PARTS LIST ONLY 。

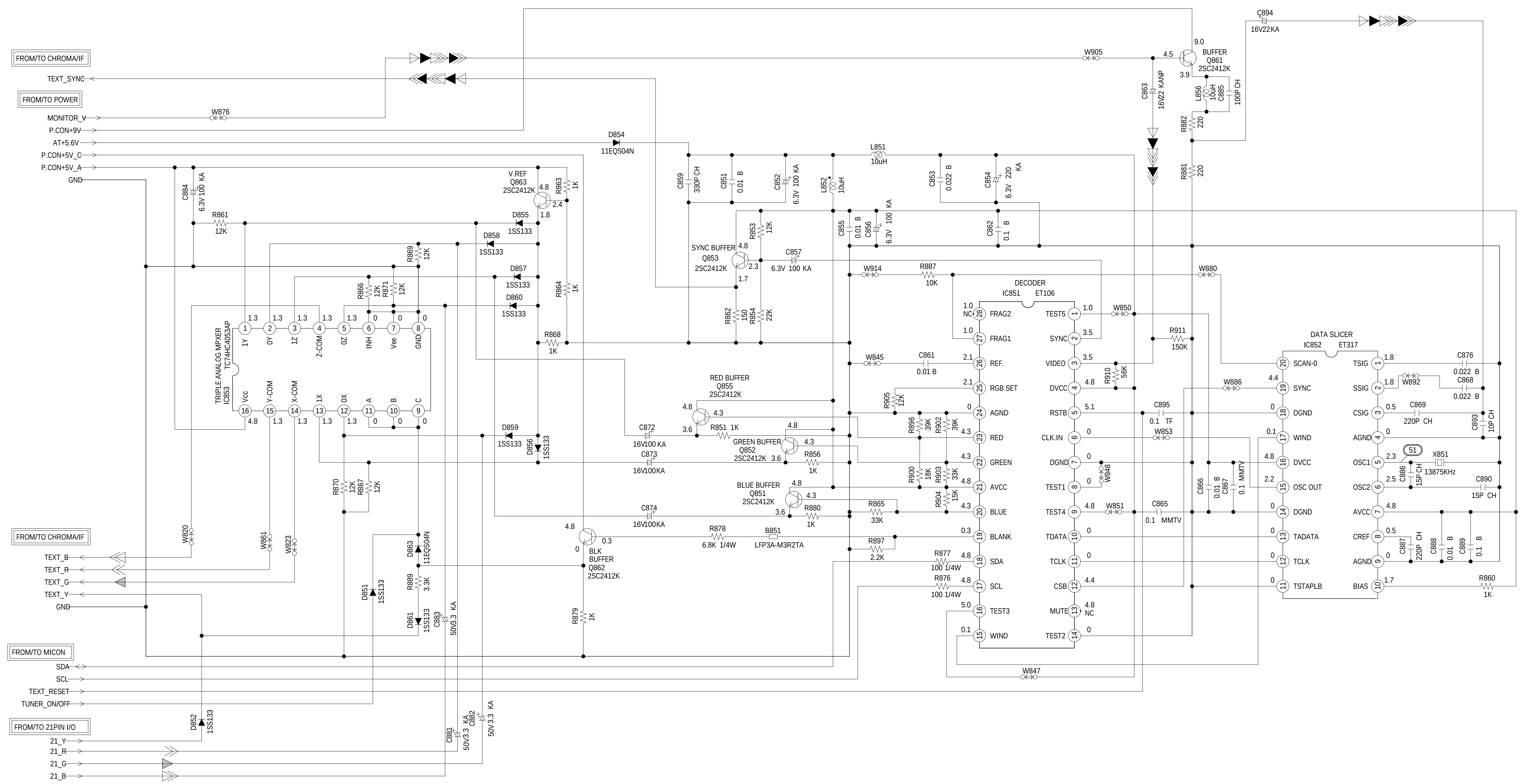
ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES。

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE 。

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

T'TEXT SCHEMATIC DIAGRAM

(SYSCON PCB)



NOTE: THE RESISTOR MARKED F IS FUSE RESISTOR.
THE ALUMI ELECTROLYTIC CAPACITOR MARKED NP IS NON POLAR ONE.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE。

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

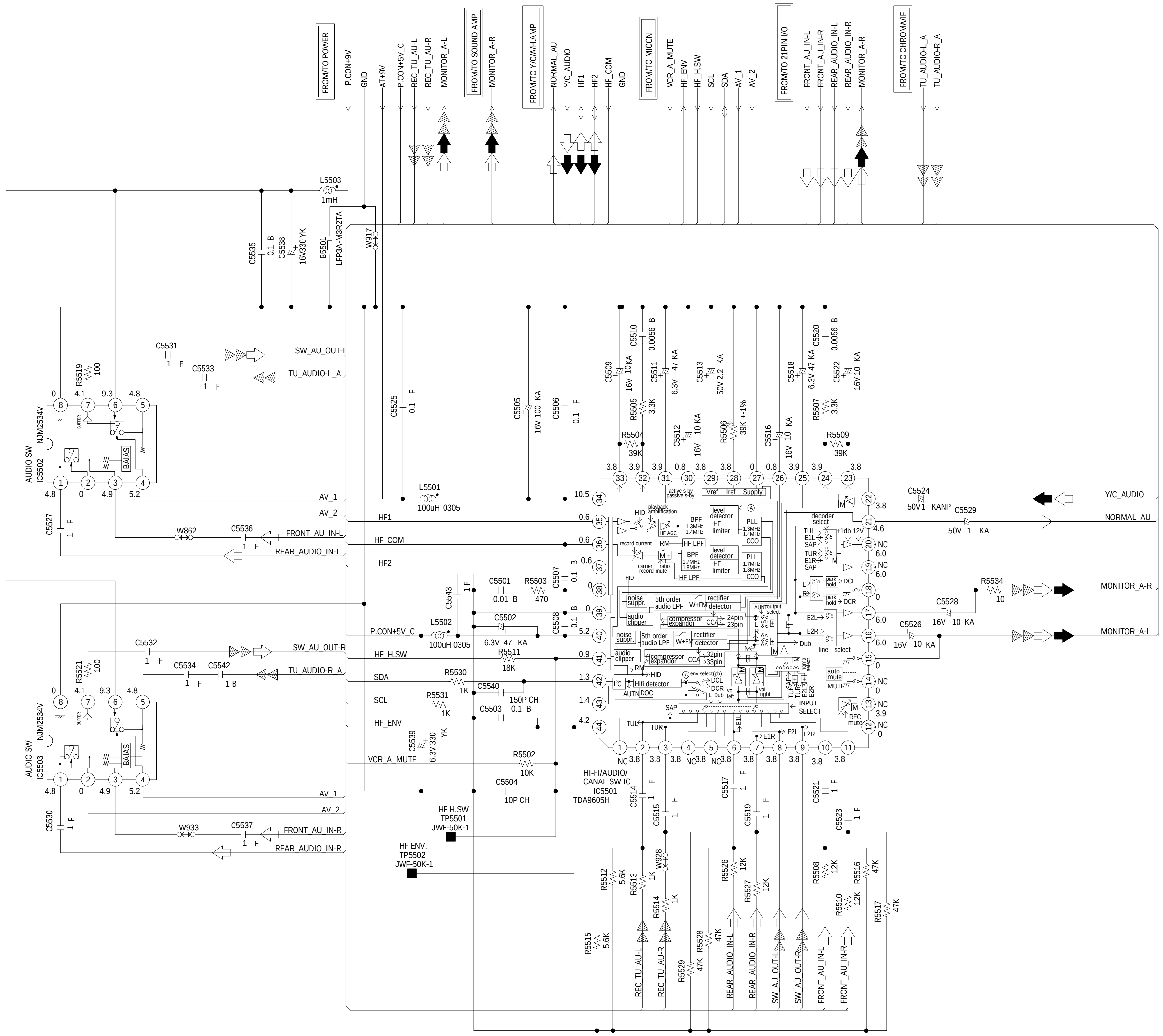
RECORD LUMINANCE SIGNAL
PLAYBACK LUMINANCE SIGNAL
RECORD COLOR SIGNAL
PLAYBACK COLOR SIGNAL

R.SIGNAL
G.SIGNAL
B.SIGNAL

PCB010
VMX199

TUNER/HI-FI SCHEMATIC DIAGRAM

(SYSCON PCB)



RECORD LUMINANCE SIGNAL
RECORD COLOR SIGNAL
PLAYBACK LUMINANCE SIGNAL
PLAYBACK COLOR SIGNAL
TUNER AUDIO SIGNAL
AUDIO SIGNAL(PB)
AUDIO SIGNAL(REC)

PCB010
VMX199

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

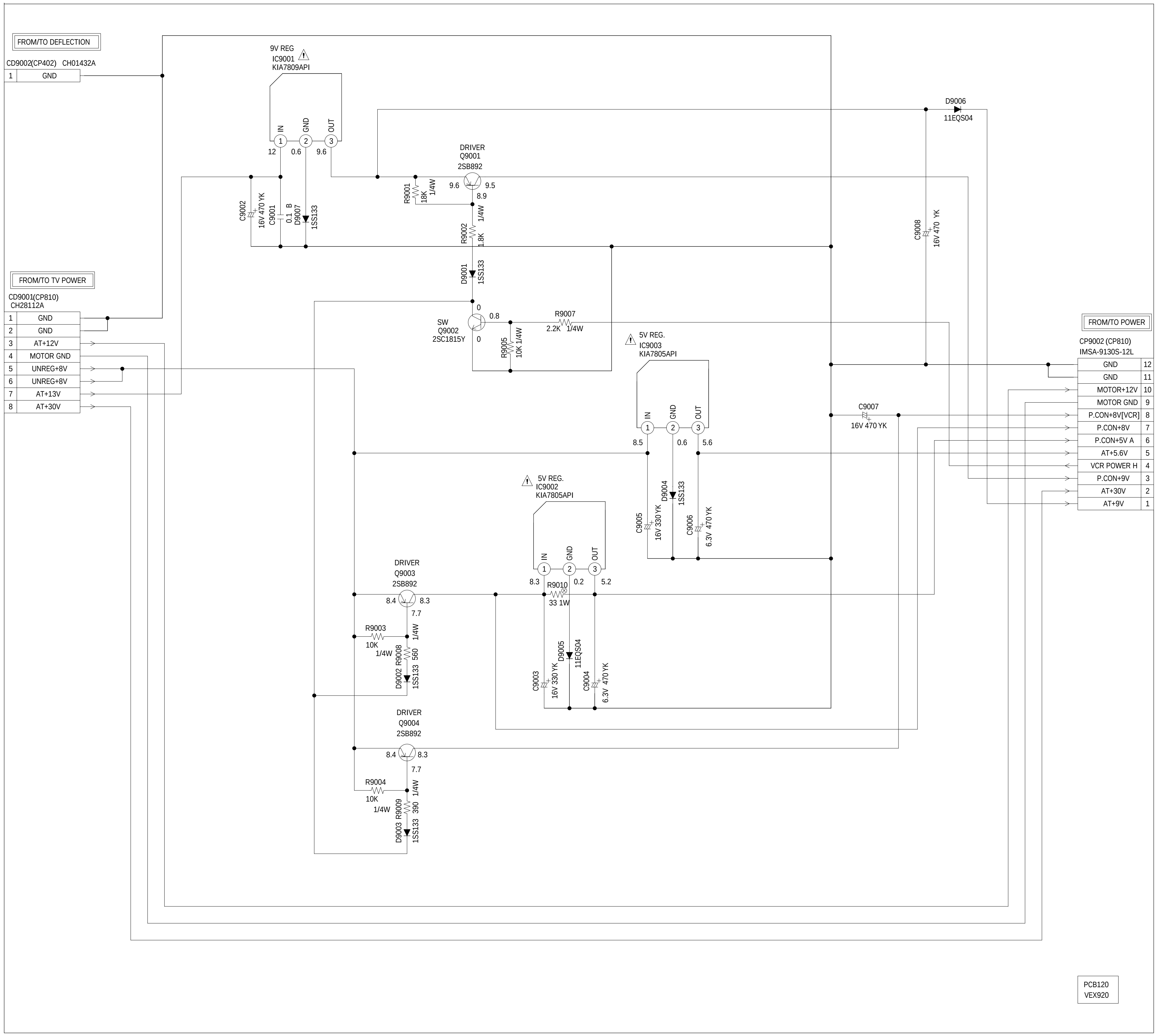
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED IN PARTS LIST ONLY.

ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES.

REGULATOR SCHEMATIC DIAGRAM

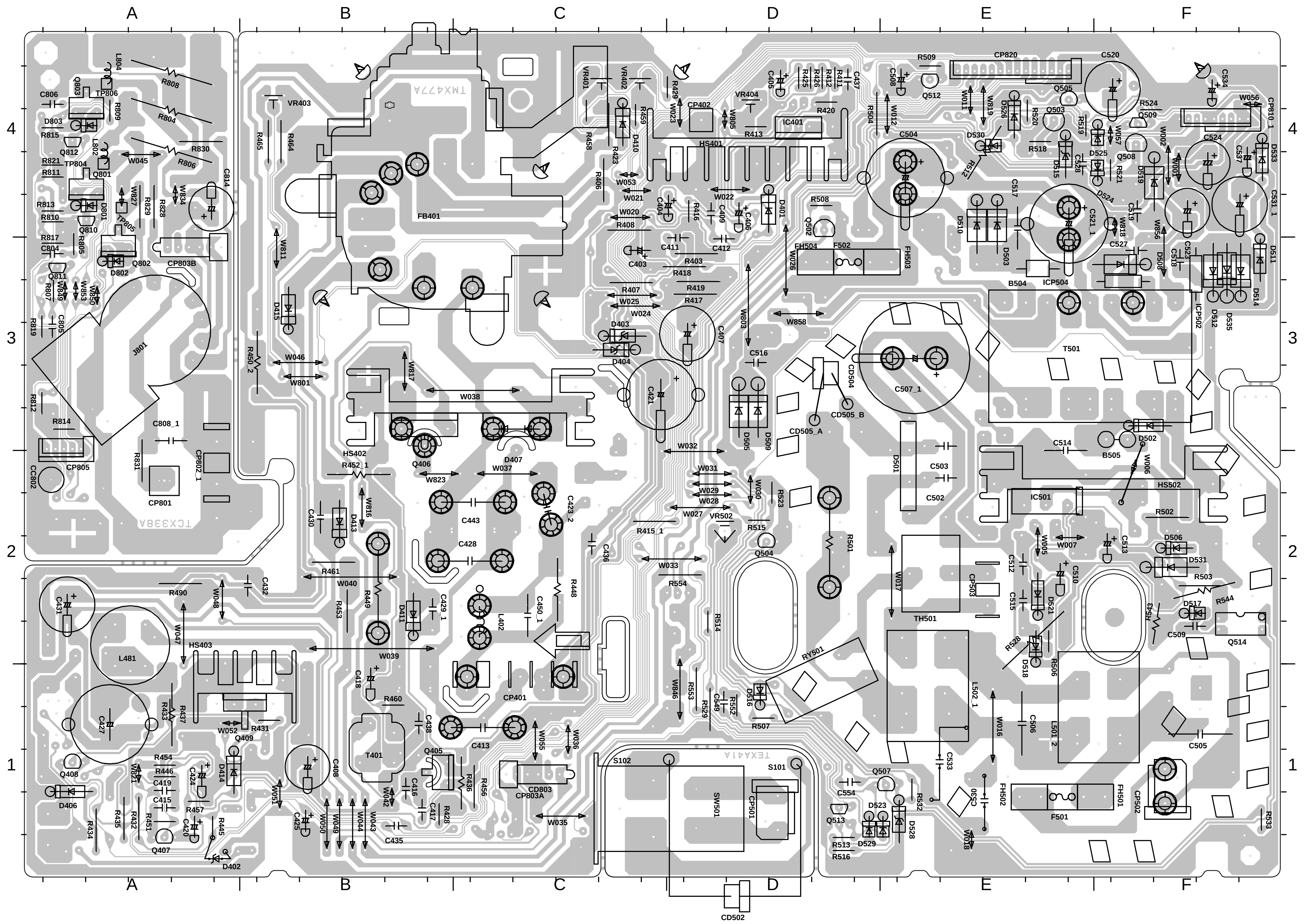
(SYSCON PCB)



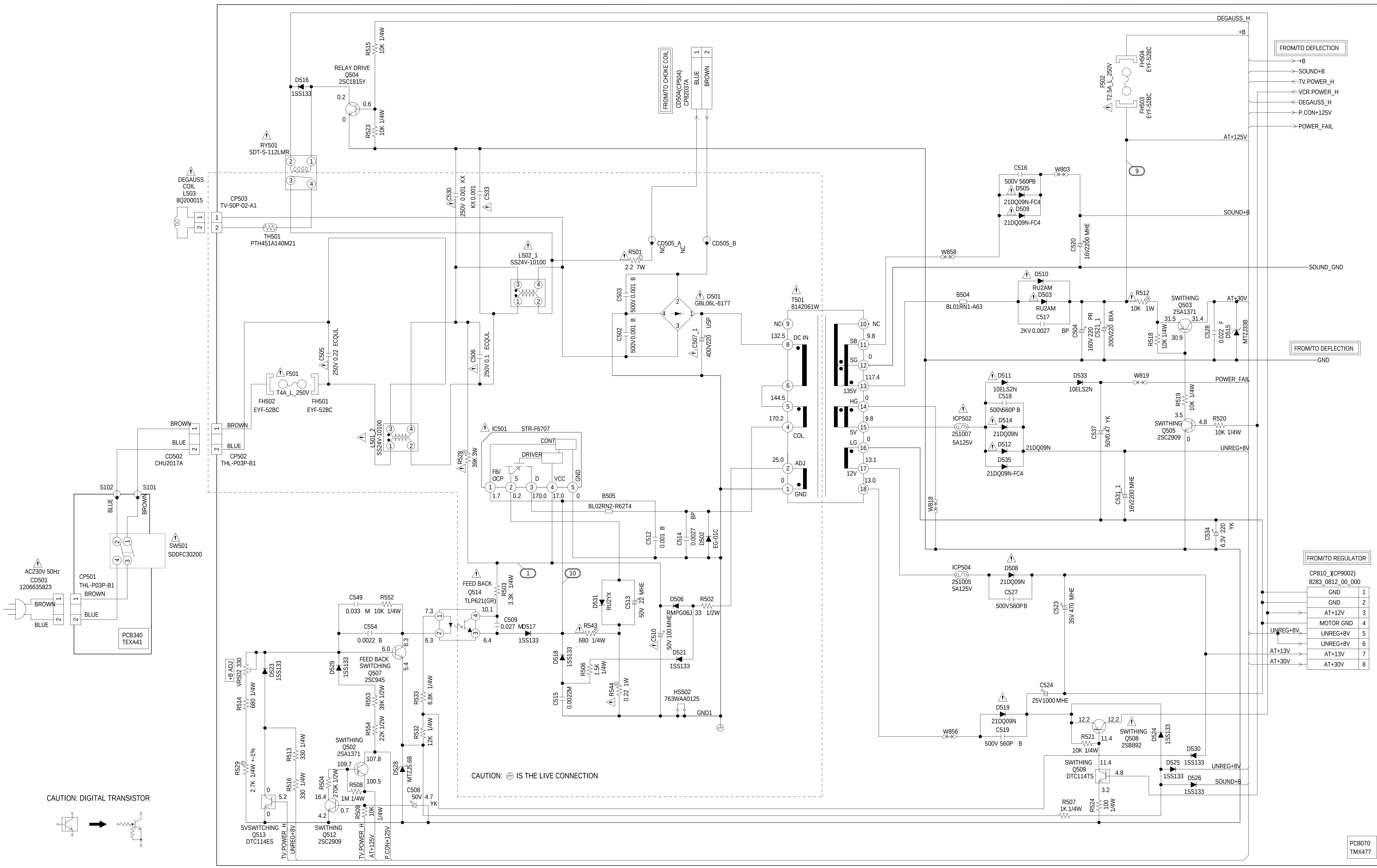
NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

MAIN/CRT/POWER SW
SOLDER SIDE



TV POWER SCHEMATIC DIAGRAM (MAIN PCB)



NOTE: THE RESISTOR MARKED F IS FUSE RESISTOR.
THE ALUMI ELECTROLYTIC CAPACITOR MARKED NP
IS NON POLAR ONE.

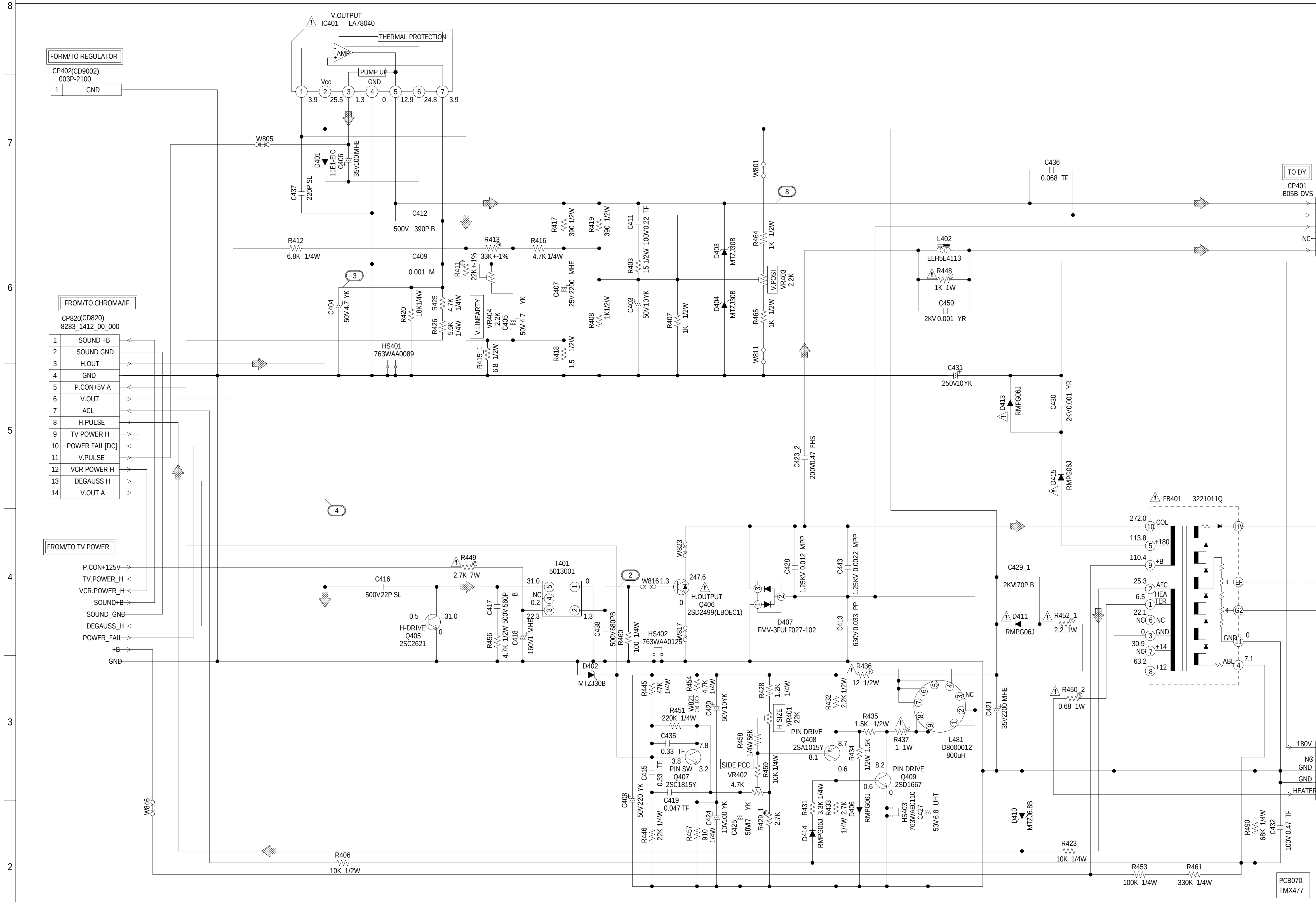
NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED
WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST
WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME
OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE
CRITICAL FOR SAFETY, USE ONES
DESCRIBED IN PARTS LIST ONLY.

ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT
DANGEREUSES AN POINT DE VUE SECURITE
N'UTILISER QUE CELLS DECRITES
DANS LA NOMENCLATURE DES PIECES.

DEFLECTION SCHEMATIC DIAGRAM (MAIN PCB)



NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

DEFLECTION SIGNAL

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE。

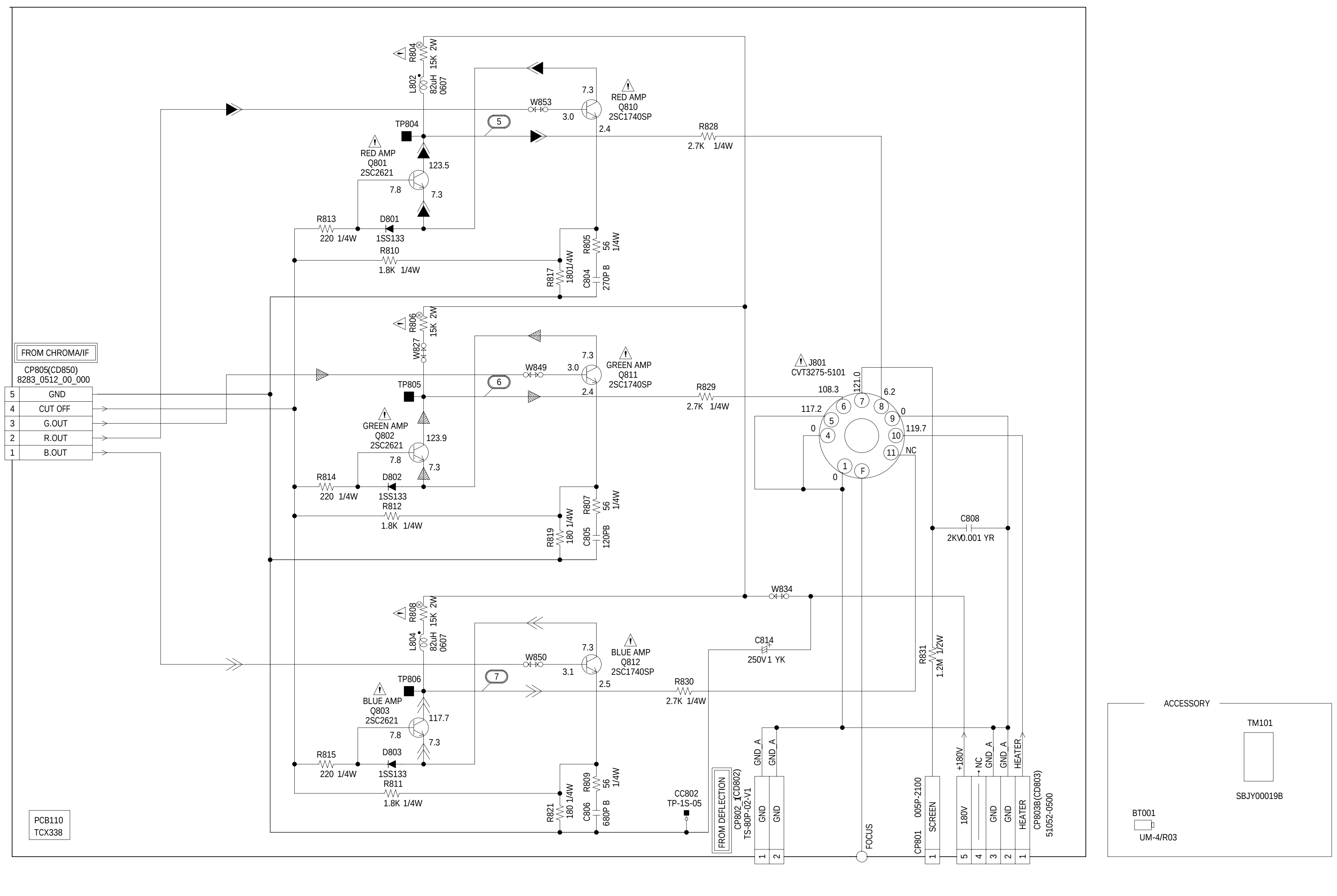
NOTE: THE RESISTOR MARKED F IS FUSE RESISTOR. THE ALUMI ELECTROLYTIC CAPACITOR MARKED NP IS NON POLAR ONE.

ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES.

CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED IN PARTS LIST ONLY 。

CRT SCHEMATIC DIAGRAM

(CRT PCB)



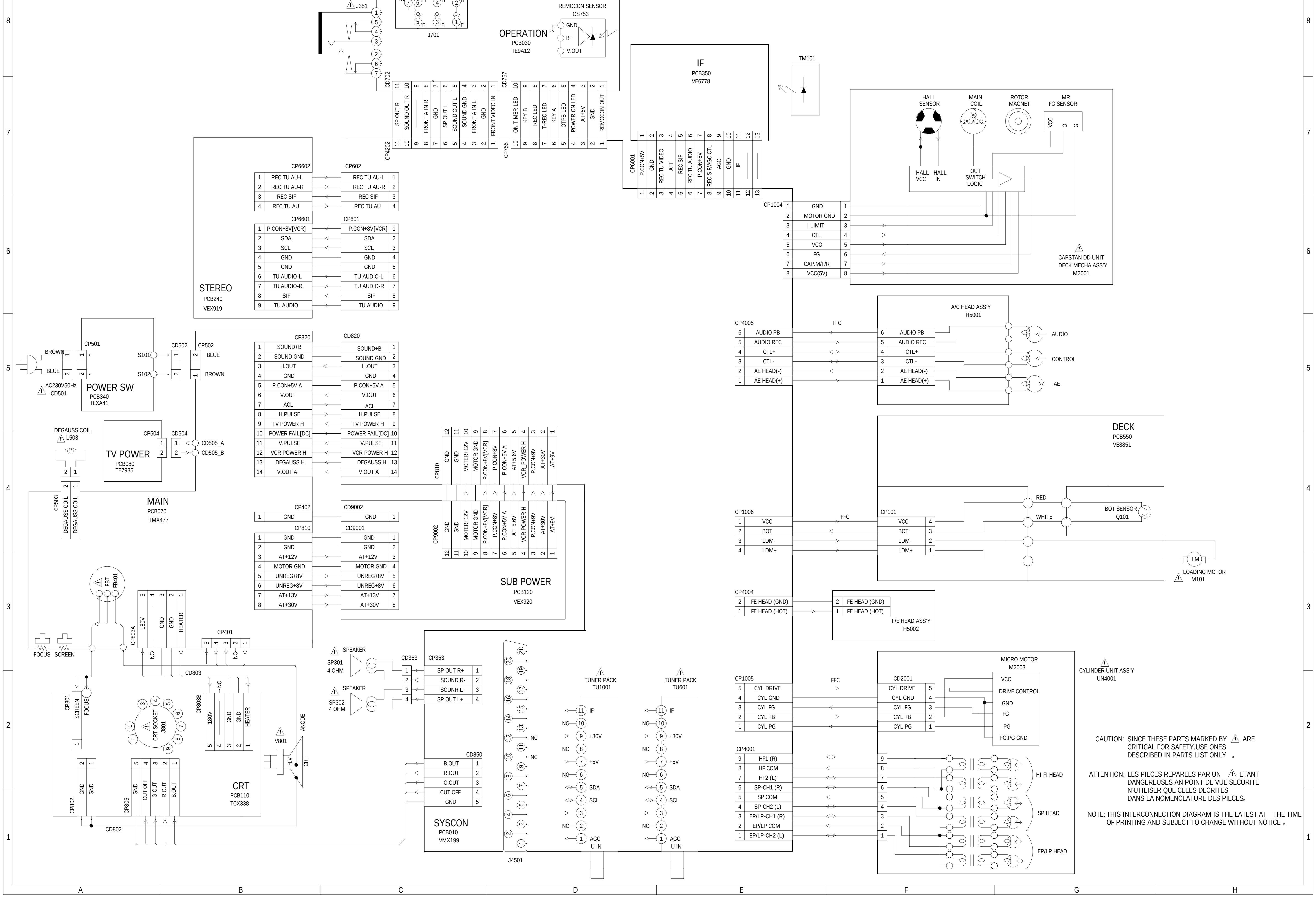
NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED IN PARTS LIST ONLY.

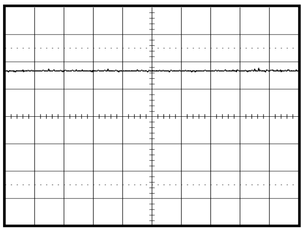
ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES.

INTERCONNECTION DIAGRAM



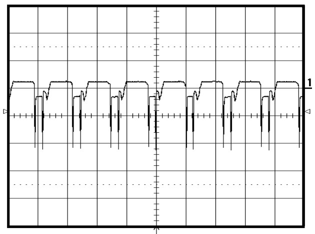
WAVEFORMS

TV POWER

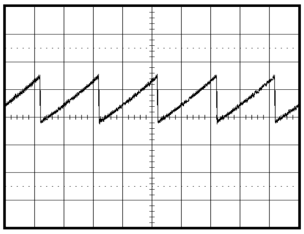


① 5V 0.1ms/div

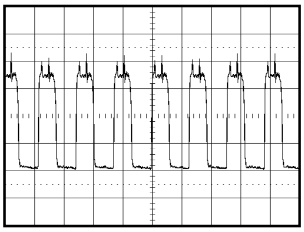
DEFLECTION



② 5V 50µs/div

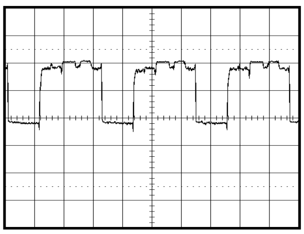


③ 0.5V 10ms/div

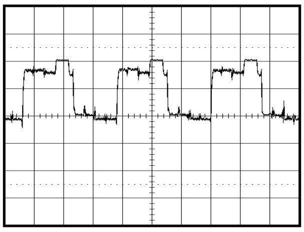


④ 200mV 50µs/div

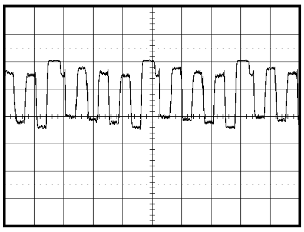
CRT



⑤ 2V 20µs/div

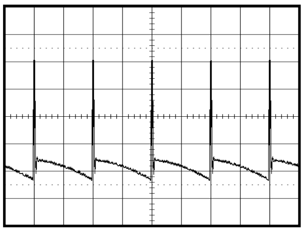


⑥ 20V 20µs/div



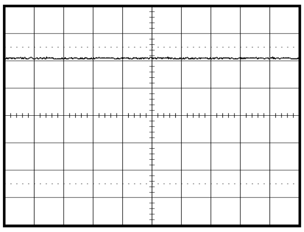
⑦ 20V 20µs/div

DEFLECTION

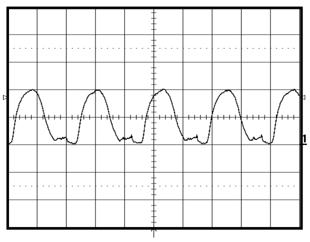


⑧ 10V 10ms/div

TV POWER

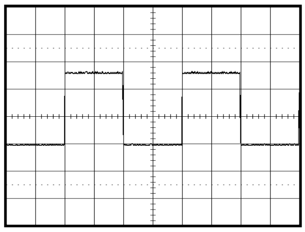


⑨ 20V 10ms/div

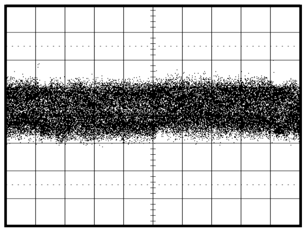


⑩ 2V 5µs/div

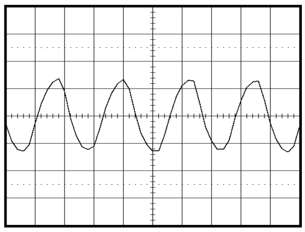
Y/C/AUDIO/HEAD AMP



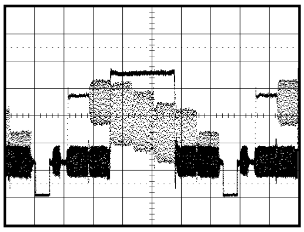
⑪ PB
2V 10ms/div



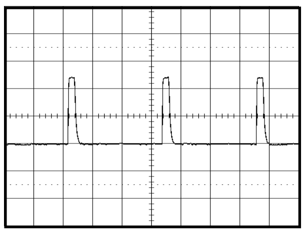
⑫ PB
10mV 5ms/div



⑬ POWER ON
200mV 50ns/div



⑭ POWER ON
0.5V 10µs/div

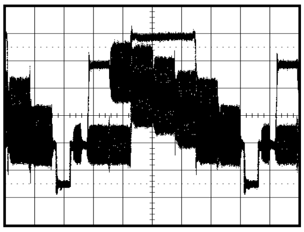


⑮ POWER ON
2V 20µs/div

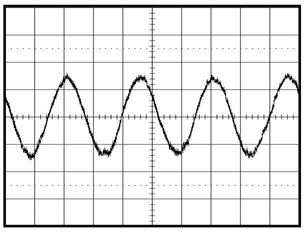
NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

WAVEFORMS

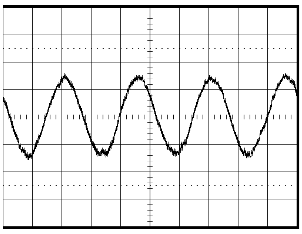
MICON



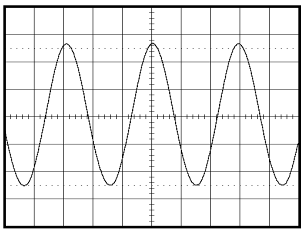
(16) POWER ON
200mV 10µs/div



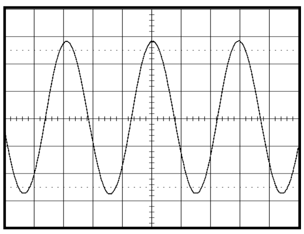
(17) POWER ON
50mV 1ms/div



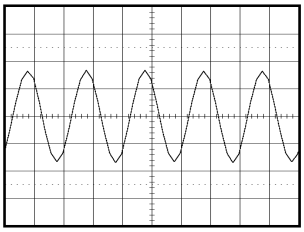
(18) POWER ON
50mV 1ms/div



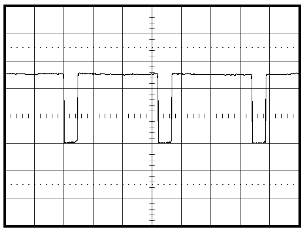
(19) REC
10V 5µs/div



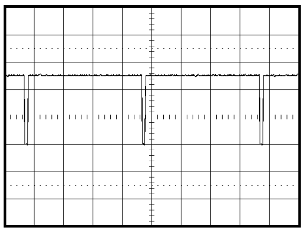
(20) REC
10V 5µs/div



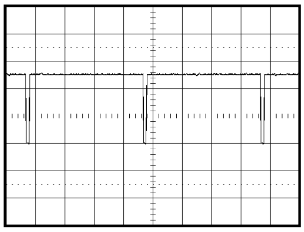
(21) POWER ON
1V 50ns/div



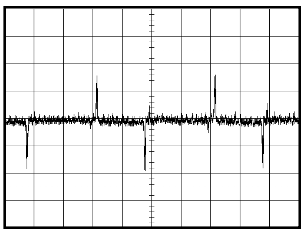
(22) POWER ON
1V 20µs/div



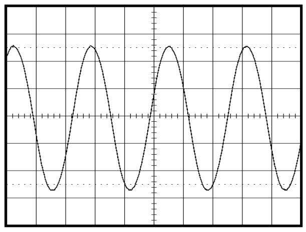
(23) POWER ON
2V 20µs/div



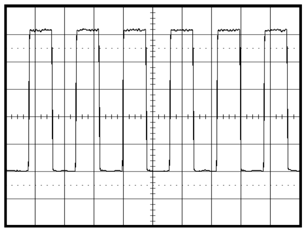
(24) POWER ON
2V 5ms/div



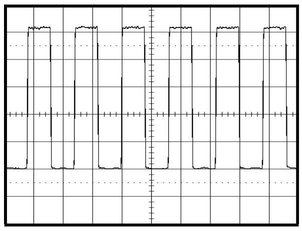
(25) PB
50mV 10ms/div



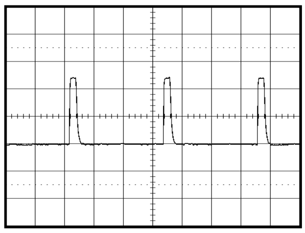
(26) PB
50mV 0.5ms/div



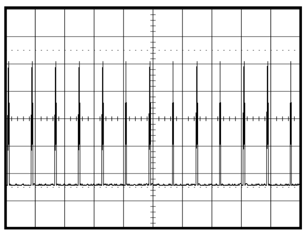
(27) PB
1V 0.5µs/div



(28) PB
1V 0.5µs/div



(29) PB
2V 20µs/div

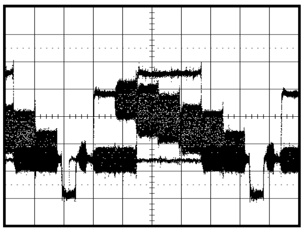


(30) PB
1V 50ms/div

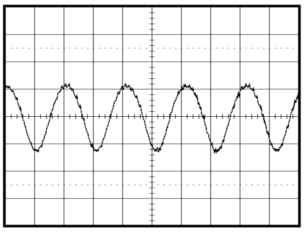
NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

WAVEFORMS

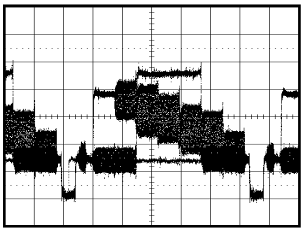
POWER



(31) REC
0.5V 10µs/div

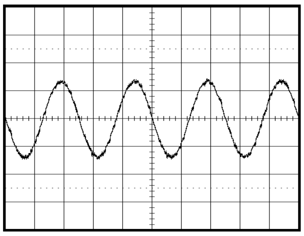


(32) REC
0.5V 0.5ms/div

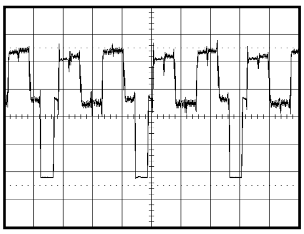


(33) REC
0.5V 10µs/div

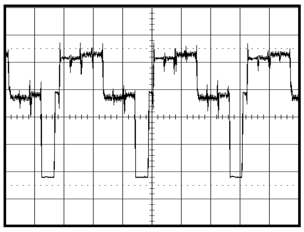
CHROMA/IF



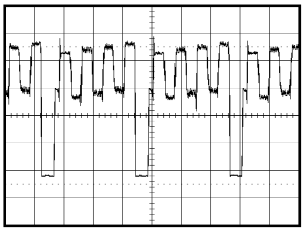
(34) POWER ON
5mV 1ms/div



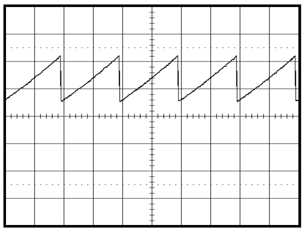
(35) POWER ON
0.5V 20µs/div



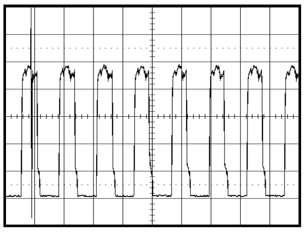
(36) POWER ON
0.5V 20µs/div



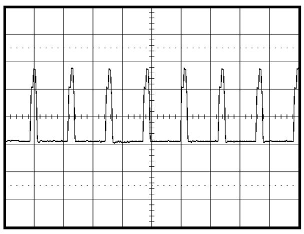
(37) POWER ON
0.5V 20µs/div



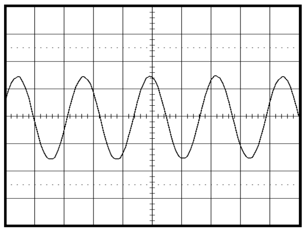
(38) POWER ON
0.5V 10ms/div



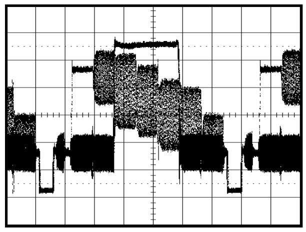
(39) POWER ON
200mV 50µs/div



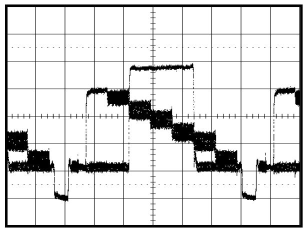
(40) POWER ON
2V 50µs/div



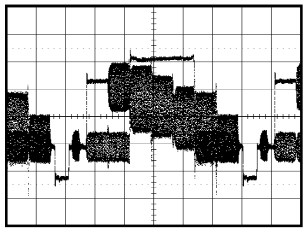
(41) POWER ON
200mV 0.1µs/div



(42) POWER ON
200mV 10µs/div

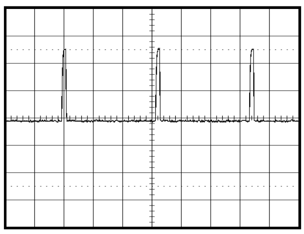


(43) POWER ON
10mV 10µs/div



(44) POWER ON
0.5V 10µs/div

POWER

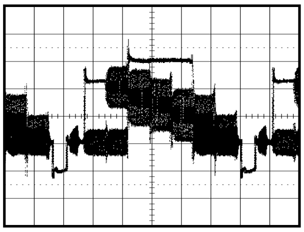


(45) REC
2V 20µs/div

NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

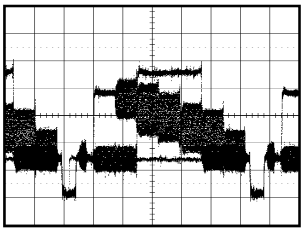
WAVEFORMS

21PIN IN/OUT

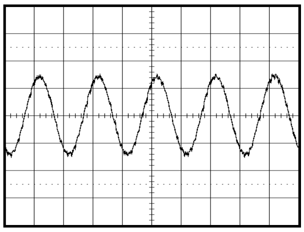


(46) POWER ON
0.5V 10µs/div

IF

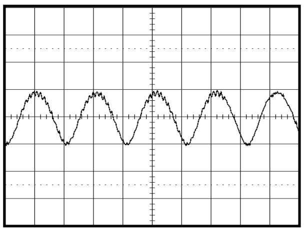


(47) REC
0.5V 10µs/div

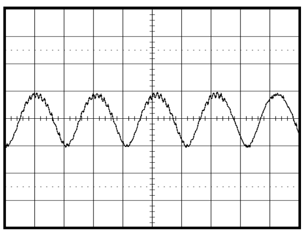


(48) REC
100mV 0.5ms/div

SOUND AMP

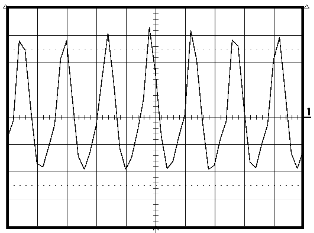


(49) REC
0.5V 0.5ms/div



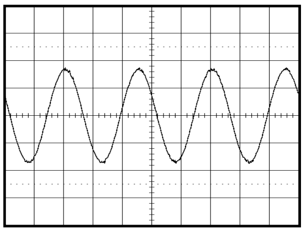
(50) REC
0.5V 0.5ms/div

T'TEXT



(51) POWER ON
200mV 50ns/div

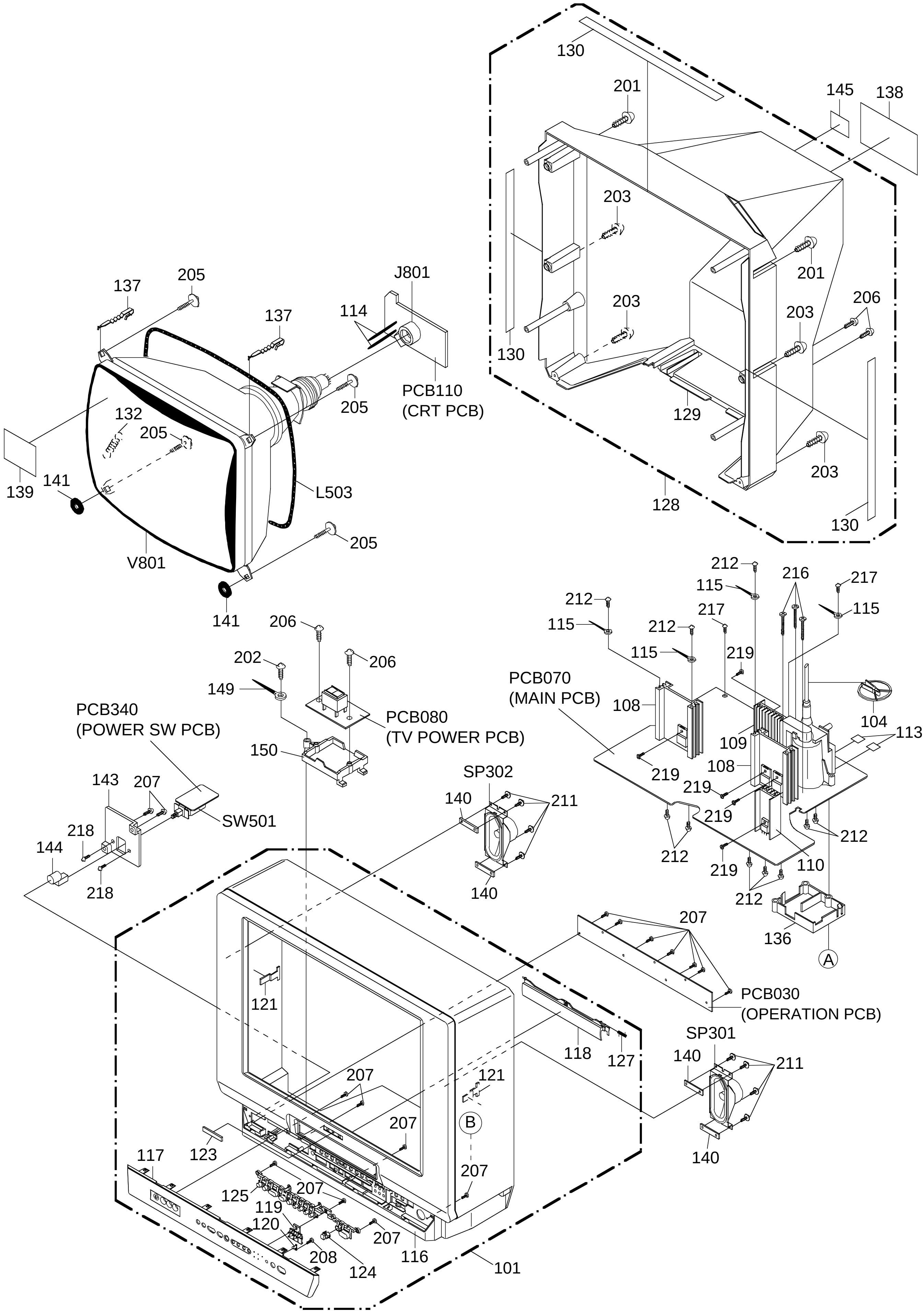
21PIN IN/OUT



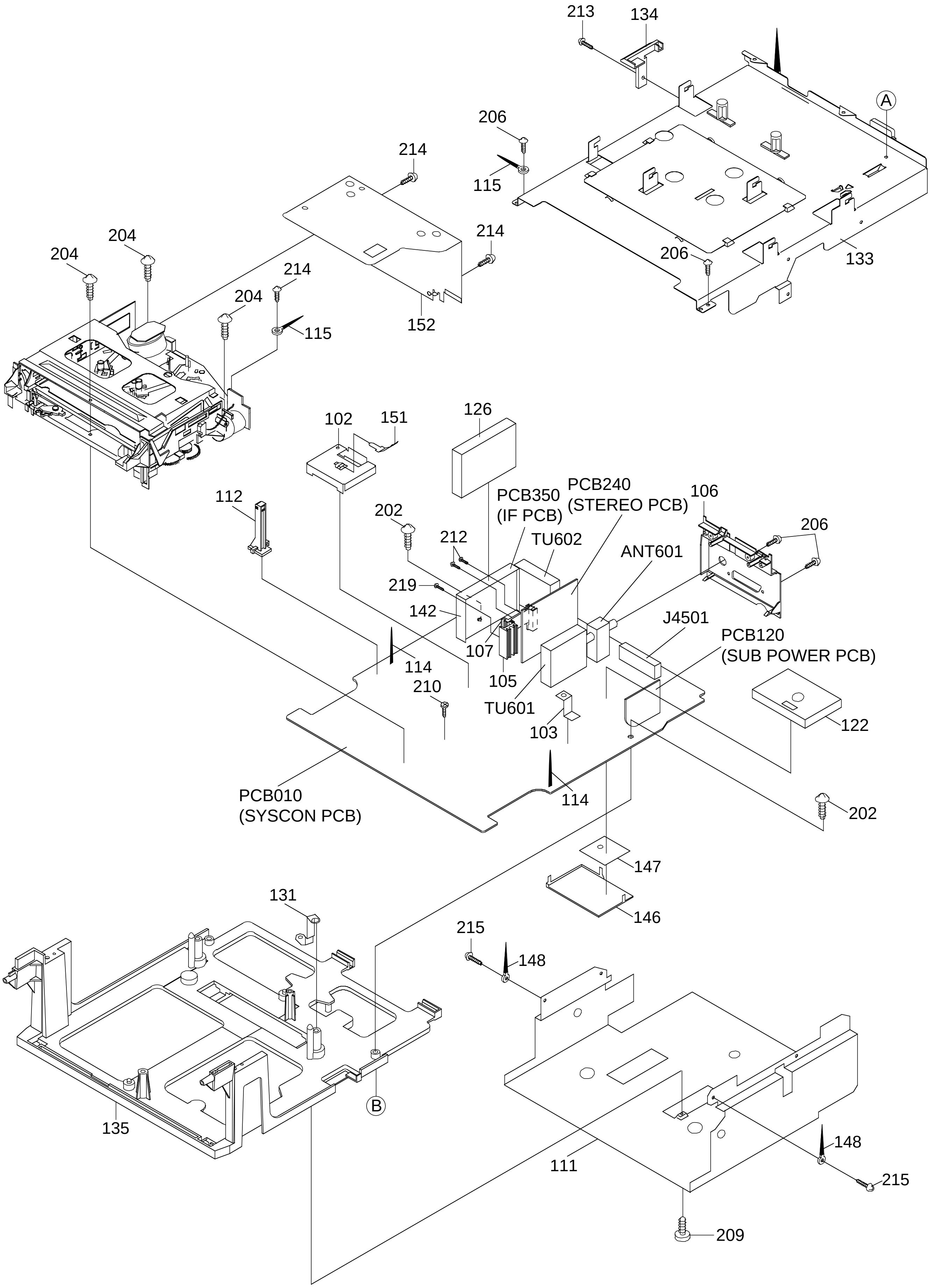
(52) POWER ON
20mV 1ms/div

NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

MECHANICAL EXPLODED VIEW



MECHANICAL EXPLODED VIEW



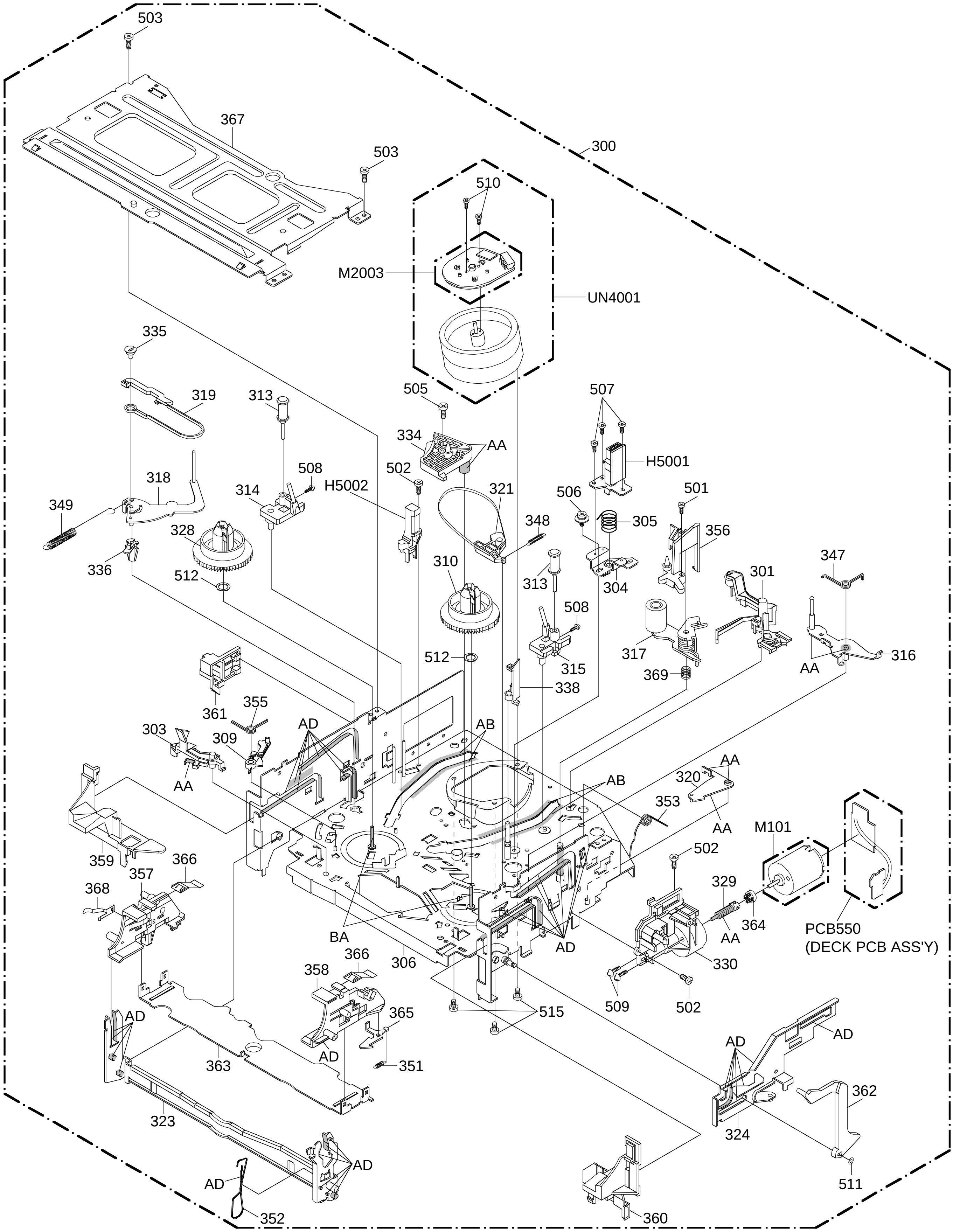
MECHANICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	Q'TY
101	S5-590-3Q7-200	CABI,FRONT ASS'Y	1
102	----	SHIELD,CASE HEAD AMP	1
103	----	PLATE,EARTH-SYSCON	1
104	S9-9HV-3T0-000	HOLDER,ANODE WIRE	1
105	----	HEAT SINK	1
106	S7-1WP-A02-590	PLATE,JACK	1
107	----	HEAT SINK	1
108	----	HEAT SINK	2
109	----	HEAT SINK	1
110	----	HEAT SINK	1
111	----	PLATE,SHIELD BOTTOM	1
112	S5-OP7-000-360	HOLDER,EOT SENSOR	1
113	----	RUBBER,SILCON	2
114	----	COATING CLIP	4
115	----	CORD CLIP UL CO.	6
116	----	CABI,FRONT	1
117	S1-2WP-J07-160	PLATE,FRONT	1
118	S1-2WP-J07-170	FLAP	1
119	----	GLASS,LED	1
120	S1-3WP-A01-000	GUIDE,REMOCON	1
121	S0-9WP-A00-220	STOPPER,PCB	2
122	----	SHIELD,CASE	1
123	S2-344-900-990	BADGE,BRAND	1
124	S3-5WP-D06-700	BUTTON,OTPB	1
125	S3-5WP-J01-230	BUTTON,FRAME	1
126	----	IF SHIELD CASE	1
127	S4-3WK-A00-320	SPR,FLAP	1
128	S5-590-3Q7-400	CABI,BACK ASS'Y	1
129	----	CABI,BACK	1
130	----	FELT SHEET	3
131	S5-3WS-A01-200	PLATE,BOTTOM-EARTH	1
132	S4-1WU-A00-010	SPR,EARTH	1
133	----	PLATE,DECK-SHIELD	1
134	S6-1WP-A01-510	HOLDER,M/PCB	1
135	S6-1WP-A01-980	HOLDER,DECK	1
136	S6-1WP-A01-450	HOLDER,FBT	1
137	S6-2WP-A00-110	HOLDER,CRT WIRE	2
138	----	SHEET,RATING	1
139	----	LABEL,POP	1
140	----	RUBBER,SPEAKER	4
141	----	SHEET,CRT SUPPORT (A)	2
142	----	IF SHIELD BOTTOM	1
143	S5-2WS-A02-150	PLATE,POWER SW	1
144	S3-5WP-B00-900	BUTTON,POWER	1
145	----	LABEL,ANTI-THEFT	1
146	----	SHIELD,COVER	1
147	----	SHEET,PVC	1
148	----	WIRING CLIP	2
149	----	CORD CLAMP NO.P-45	1
150	S6-1WP-A01-530	HOLDER,TRANS	1
151	S5-3WU-AA0-060	SPRING,EARTH HEAD AMP	1
152	----	SHIELD,COVER DECK	1
201	S1-172-40C-540	SCREW,TAPPING(B0) BIND 4x35	2
202	S1-175-40B-040	SCREW,TAP(B0)TRUSS 4-20	3
203	S1-175-40A-640	TAP(B0)4-16	4
204	S1-171-40A-240	TAP(B0)V+4-12	3
205	S1-11J-50D-040	SCREW TAP(A)5-40	4
206	S1-106-30A-240	SCREW,TAP(P)3-12	8
207	S1-106-30A-040	UIT+3-10	16
208	S1-106-308-040	TAP(P)3-8	1
209	S1-106-306-040	UIT+3-6	1
210	87-741-095-410	SCREW,TAP TITE(P) FLAT 3-8	1
211	S1-46I-26A-040	SCREW,TAP M2.6x10	8
212	87-753-095-410	SCREW,TAP 3-8	12
213	S1-072-308-040	UT2+3-8	1
214	87-743-073-010	VT2+2.6-6	1
215	S1-076-306-040	BVTT+3-6	2
216	S1-0A1-30B-040	SCREW,WASHER(A)M3-20	3
217	S1-0A1-306-040	SCREW,WASHER(A)M3-6	2
218	S1-0A1-305-040	SCREW,WASHER(A) M3-5	2
219	S1-09I-30A-040	SCREW,TAP TITE(B) 3-10	6

ACCESSORY REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	Q'TY
1	S7-660-DR0-100	TRANSMITTER SBJY00019A	1
2	S5-590-301-000	INSTRUCTION BOOK	1

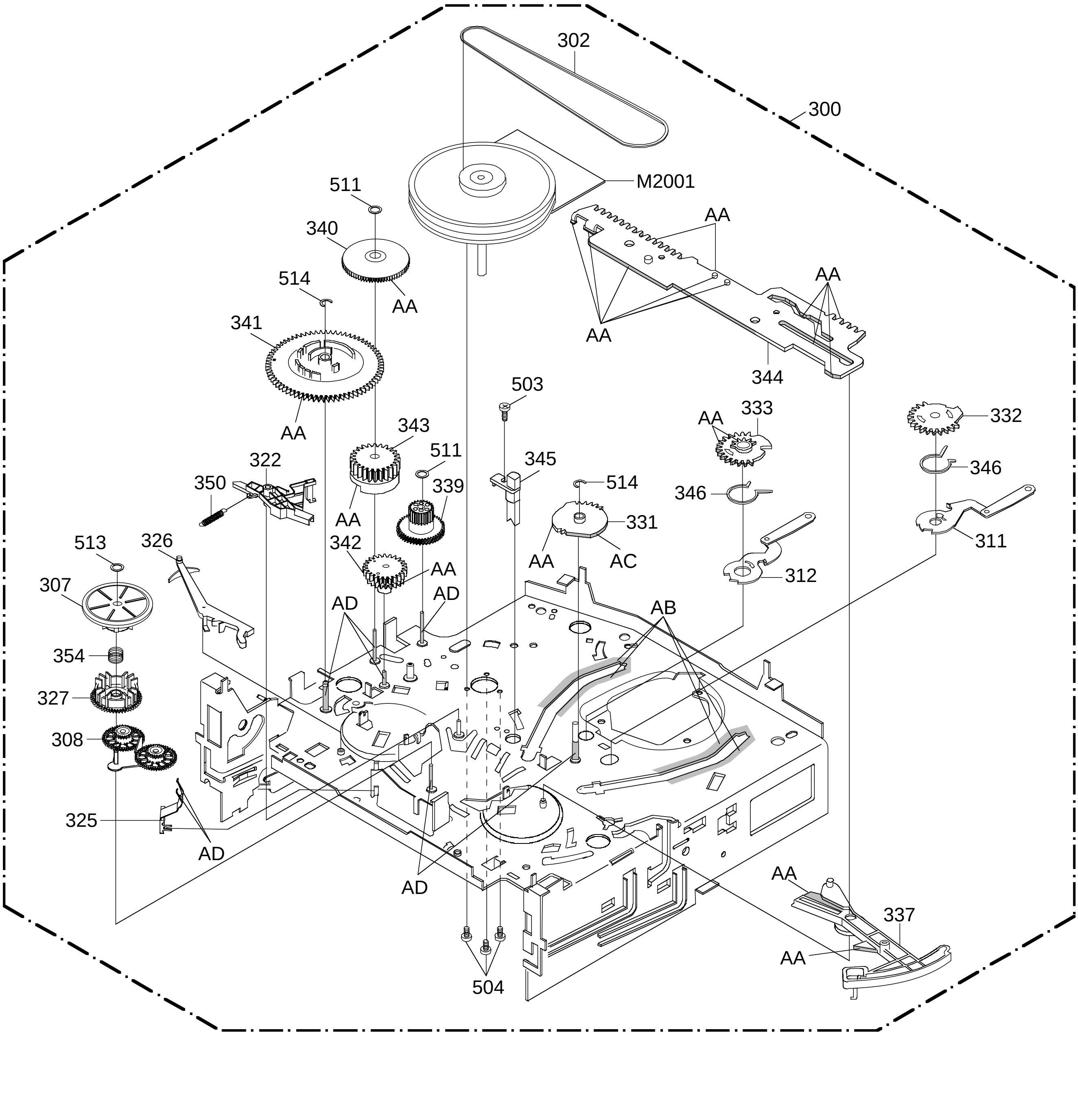
CHASSIS EXPLODED VIEW (TOP VIEW)



CLASS	PART NO.	MARK
GREASE	G-555G	AA
	G-488M	AB
	FL-721	AC
	MG-33	AD
OIL	FL OIL No. 6115	BA

NOTE: Applying positions AA, AB, AC, AD and BA for the grease or oil are displayed for this section. Check if the correct grease or oil is applied for each position.

CHASSIS EXPLODED VIEW (BOTTOM VIEW)



CLASS	PART NO.	MARK
GREASE	G-555G	AA
	G-488M	AB
	FL-721	AC
	MG-33	AD
OIL	FL OIL No. 6115	BA

NOTE: Applying positions AA, AB, AC, AD and BA for the grease or oil are displayed for this section. Check if the correct grease or oil is applied for each position.

CHASSIS REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	Q'TY
300	----	DECK ASSY A55903B420A	1
301	S5-OA5-000-220	AHC ASS'Y	1
302	S5-OP2-002-900	BELT,CAPSTAN (S)	1
303	S5-OP9-007-100	LEVER,REC	1
304	S5-OP5-000-830	BASE,AC HEAD	1
305	S5-OP8-003-240	SPR,AC HEAD	1
306	S5-OA0-003-670	MAIN CHASSIS ASS'Y (S-Z)	1
307	S5-OA2-000-820	CLUTCH ASS'Y(S2)	1
308	S5-OA2-000-800	ARM,IDLER ASS'Y (S)	1
309	S5-OP6-005-560	ARM,SS BRAKE (S)	1
310	S5-OP2-002-920	REEL,T (S)	1
311	S5-OA3-000-610	LOAD ARM S ASS'Y	1
312	S5-OA3-000-620	LOAD ARM T ASS'Y	1
313	S5-OA4-002-100	GUIDE ROLLER ASS'Y	2
314	S5-OA4-001-880	BASE,INCL S ASS'Y	1
315	S5-OA4-001-960	BASE,INCL T(S) ASS'Y	1
316	S5-OA4-001-990	P5-3 ARM ASS'Y(S)	1
317	S5-OA4-002-050	PINCH ROLLER BLOCK	1
318	S5-OA4-002-020	TENSION ARM ASS'Y (WT)	1
319	S5-OA4-001-840	TENSION BAND ASS'Y (S)	1
320	S5-OA4-001-780	PINCH ROLLER LEVER ASS'Y	1
321	S5-OA6-001-960	BRAKE T ASSY(S)	1
322	S5-OA6-001-910	CAP BRAKE ASS'Y(S)	1
323	S5-OA9-002-130	LINK ASS'Y	1
324	S5-OA9-002-160	LINK LEVER ASS'Y	1
325	S5-OP2-002-840	LEVER,CLUTCH (S)	1
326	S5-OP2-002-850	ACTUATOR,CLUTCH	1
327	S5-OP2-002-980	GEAR,COUPLING(S2)	1
328	S5-OP2-002-910	REEL,S (S)	1
329	S5-OP6-005-410	WORM	1
330	S5-OP6-005-630	BRACKET,MOTOR	1
331	S5-OP3-001-780	GEAR,MAIN LOADING	1
332	S5-OP3-001-790	GEAR,LOADING S	1
333	S5-OP3-001-800	GEAR,LOADING T	1
334	S5-OP3-001-870	HOLDER,LOADING GEAR (S-Z)	1
335	S5-OP4-004-720	ADJUST,TENSION	1
336	S5-OP4-004-920	HOLDER,TENSION	1
337	S5-OP4-004-900	LEVER,TENSION	1
338	S5-OP4-004-750	COVER,P4	1
339	S5-OP6-005-430	GEAR,JOINT	1
340	S5-OP6-005-440	GEAR,MIDDLE	1
341	S5-OP6-005-540	CAM,MAIN (S)	1
342	S5-OP6-005-460	CAM,P5	1
343	S5-OP6-005-650	CAM,PINCH ROLLER	1
344	S5-OP6-005-610	ROD,MAIN(S)	1
345	S5-OP7-000-350	REFLECTOR,LED	1
346	S5-OP8-003-180	SPR,LOADING GEAR	2
347	S5-OP8-003-340	SPR,P5 (S)	1
348	S5-OP8-003-350	SPR,BRAKE T (S)	1
349	S5-OP8-003-220	SPR,TENSION	1
350	S5-OP8-003-360	SPR,CAP BRAKE (S)	1
351	S5-OP8-003-420	SPRING,LOCKER(S)	1
352	S5-OP8-003-260	SPR,LINK	1
353	S5-OP8-003-280	SPR,DAMPER	1
354	S5-OP8-003-300	SPR,RING	1
355	S5-OP8-003-370	SPR,SS BRAKE (S)	1
356	S5-OP9-006-800	OPENER,CASS	1
357	S5-OP9-007-310	CASS SIDE L	1
358	S5-OP9-007-320	CASS SIDE R	1
359	S5-OP9-007-280	TAPE GUIDE L(P,R)	1
360	S5-OP9-007-290	TAPE GUIDE R	1
361	S5-OP9-007-140	COVER,SENSOR L3	1
362	S5-OP9-006-880	LEVER,FLAP	1
363	S5-OP9-006-900	CASS HOLDER	1
364	S5-OP6-005-400	DRIVER,WORM	1
365	S5-OP9-007-130	LOCKER,R2	1
366	S5-OP9-006-940	SPR,PACK	2
367	S5-OP9-006-950	BRACKET,TOP	1
368	----	SPR,CASS EARTH	1
369	S5-OP8-003-410	SPRING,P/R ARM	1
501	87-654-075-410	SCREW,TAP 2.6-10	1
502	S1-072-268-040	VT2+2.6-8	3
503	87-743-073-010	VT2+2.6-6	3
504	87-743-073-410	SCREW,TAP 2.6-6	3
505	S1-0A1-268-040	SCREW,WASHER(A)M2.6-8	1
506	S1-0B1-264-040	SCREW,WASHER(B)M2.6-4	1
507	87-261-035-410	SCREW,PAN M2-6	3
508	87-261-032-410	SCREW,PAN M2-3	2
509	87-258-091-010	U+M3-3	2
510	S1-0A1-235-040	SEMS A M2.3-5	2
511	S2-P26-600-5N0	PW(CUT)2.6-6-0.5	3
512	S2-Q26-47C-5N0	POLY,WASHER 2.6-4.7	2
513	S2-P18-450-5N0	PW(CUT)1.8-4.5-0.5	1
514	S3-ETW-300-000	E-RING 3	2
515	S1-0A1-265-040	SCREW,WASHER(A) M2.6-5	3
CP101	----	CONN,PWB SIDE 52044-0445	1
H5001	S5-23D-910-340	HEAD,AC HVMXA1072A	1
H5002	S5-43D-020-130	HEAD,FE	1
⚠ M101	S5-96P-780-010	MOTOR(LOADING)	1
⚠ M2001	S5-94J-980-080	CAPSTAN DD UNIT EP15BC	1
M2003	S5-89V-110-070	MICRO MOTOR	1
PCB550	----	DECK PCB ASS'Y VE8851	1
Q101	S0-007-003-200	PHOTO,TR RPT-38PB113	1
⚠ UN4001	S4-D4A-1B5-000	CYLINDER UNIT ASSY A4D4A1B500	1

ELECTRICAL REPLACEMENT PARTS LIST

SYSCON PCB ASS'Y

*** RESISTORS ***

REF.NO.	PART NO.	DESCRIPTION
R357	S3-X28-AR3-3J0	RES,M 0.33-2W
R621	S4-X5T-633-1F0	RES,M 330-1/6W
R634	S4-X5T-647-2F0	RES,M 4.7K-1/6W
⚠ R1005	S6-150-12R-7J0	RES,FUSE 2.7-1W
R4021	S4-X5T-618-3F0	RES,MF 18K-1/6W
R5506	S4-X5T-639-3F0	RES,MF 39K-1/6W

*** CAPACITORS ***

REF.NO.	PART NO.	DESCRIPTION
C351	87-016-053-080	CAP,E 22-16V
C352	87-015-075-040	CAP,E 10-16V
C354	87-010-271-080	CAP,E 1000-16V
C356	87-016-053-080	CAP,E 22-16V
C358	87-016-053-080	CAP,E 22-16V
C372	S0-2LT-210-2M0	CAP,E 1000-16V
C605	S5-0HU-501-0M0	CAP,E 1-50V
C611	87-015-075-040	CAP,E 10-16V
C612	87-015-075-040	CAP,E 10-16V
C613	87-015-075-040	CAP,E 10-16V
C614	S0-2LU-222-1M0	CAP,E 220-16V
C618	87-015-695-080	CAP,E 1-50V
C619	87-015-695-080	CAP,E 1-50V
C620	87-010-549-010	CAP,E 47-6.3V
C622	87-015-695-080	CAP,E 1-50V
C623	S0-2LU-233-1M0	CAP,E 330-16V
C625	87-010-549-010	CAP,E 47-6.3V
C626	87-010-400-080	CAP,E 0.47-50V
C629	S0-2LT-247-1M0	CAP,E 470-16V
C632	87-010-560-080	CAP,E 10-50V
C634	87-016-088-040	CAP,E 220-6.3V
C636	S0-0NU-247-0M0	CAP,E 47-16 V
C639	87-010-549-010	CAP,E 47-6.3V
C642	87-010-403-080	CAP,E 3.3-50V
C645	87-015-695-080	CAP,E 1-50V
C652	87-015-693-080	CAP,E 0.33-50V
C656	87-010-754-040	CAP,E 220UF-10V
C658	87-015-677-010	CAP,E 100-6.3V
C659	87-010-400-080	CAP,E 0.47-50V
C667	S5-0HU-52R-2M0	CAP,E 2.2-50V
C669	87-010-560-080	CAP,E 10-50V
C677	87-010-235-080	CAP,E 470-16V
C687	87-016-088-040	CAP,E 220-6.3V
C689	87-010-112-080	CAP,E 100-16V
C692	87-015-685-040	CAP,E 10UF-25V
C693	S0-2LT-247-1M0	CAP,E 470-16V
C699	S5-0HT-347-0M0	CAP,E 47-25 V
C703	87-015-075-040	CAP,E 10-16V
C705	S0-2LU-210-1M0	CAP,E 100-16V
C707	87-015-075-040	CAP,E 10-16V
C708	S0-2LU-022-1M0	CAP,E 220-6.3V
C709	S0-2LU-022-1M0	CAP,E 220-6.3V
C710	87-015-075-040	CAP,E 10-16V
C711	87-010-380-080	CAP,E 47-16V
C852	87-010-079-080	CAP,E 100-6.3V
C854	87-015-975-080	CAP,E 220-6.3V
C856	87-015-677-010	CAP,E 100-6.3V
C857	87-015-677-010	CAP,E 100-6.3V
C863	87-010-379-080	CAP,E 22-16V
C872	87-010-112-080	CAP,E 100-16V
C873	87-010-112-080	CAP,E 100-16V
C874	87-010-112-080	CAP,E 100-16V
C881	87-010-403-080	CAP,E 3.3-50V
C882	87-010-403-080	CAP,E 3.3-50V
C883	87-010-403-080	CAP,E 3.3-50V
C884	87-010-079-080	CAP,E 100-6.3V
C894	87-016-053-080	CAP,E 22-16V
C1001	87-010-112-080	CAP,E 100-16V
C1003	S0-001-937-600	CAP,E 0.1F-5.5V
C1013	87-010-076-040	CAP,E 22UF-6.3V
C1016	S0-0NU-047-0M0	CAP,E 47-6.3V
C1020	87-010-404-080	CAP,E 4.7-50V
C1021	87-015-683-080	CAP,E 33-16V
C1032	87-016-088-040	CAP,E 220-6.3V
C1033	87-010-404-080	CAP,E 4.7-50V
C1037	S0-2LU-047-1M0	CAP,E 470-6.3V

*** CAPACITORS ***

REF.NO.	PART NO.	DESCRIPTION
C1042	S0-2LU-047-1M0	CAP,E 470-6.3V
C1046	S0-32T-322-1M0	CAP,E 220-25V
C1047	87-010-378-080	CAP,E 10-16V
C1048	87-010-404-080	CAP,E 4.7-50V
C1070	87-016-088-040	CAP,E 220-6.3V
C1076	87-015-677-010	CAP,E 100-6.3V
C1086	87-015-695-080	CAP,E 1-50V
C1087	87-015-677-010	CAP,E 100-6.3V
C1090	87-010-076-040	CAP,E 22UF-6.3V
C1091	S0-2LU-210-1M0	CAP,E 100-16V
C4001	87-015-683-080	CAP,E 33-16V
C4008	87-015-677-010	CAP,E 100-6.3V
C4015	87-016-088-040	CAP,E 220-6.3V
C4017	87-010-549-010	CAP,E 47-6.3V
C4024	87-010-403-080	CAP,E 3.3-50V
C4031	87-010-560-080	CAP,E 10-50V
C4036	87-015-075-040	CAP,E 10-16V
C4039	87-010-404-080	CAP,E 4.7-50V
C4040	87-010-402-080	CAP,E 2.2-50V
C4041	87-010-404-080	CAP,E 4.7-50V
C4049	87-010-076-040	CAP,E 22UF-6.3V
C4050	87-010-404-080	CAP,E 4.7-50V
C4051	87-015-075-040	CAP,E 10-16V
C4055	87-010-549-010	CAP,E 47-6.3V
C4057	87-010-404-080	CAP,E 4.7-50V
C4069	87-010-549-010	CAP,E 47-6.3V
C4071	87-015-075-040	CAP,E 10-16V
C4073	87-010-403-080	CAP,E 3.3-50V
C4074	87-015-075-040	CAP,E 10-16V
C4077	87-015-695-080	CAP,E 1-50V
C4078	87-015-695-080	CAP,E 1-50V
C4084	S6-32U-122-1D0	CAP,E 220-10V
C4085	87-010-404-080	CAP,E 4.7-50V
C4088	87-010-549-010	CAP,E 47-6.3V
C4091	87-010-380-080	CAP,E 47-16V
C4092	87-010-380-080	CAP,E 47-16V
C4096	87-010-549-010	CAP,E 47-6.3V
C4108	87-010-112-080	CAP,E 100-16V
C4116	87-015-695-080	CAP,E 1-50V
C4501	87-015-677-010	CAP,E 100-6.3V
C4503	S0-2LU-233-1M0	CAP,E 330-16V
C4504	87-015-075-040	CAP,E 10-16V
C4509	87-015-075-040	CAP,E 10-16V
C4526	87-015-075-040	CAP,E 10-16V
C4529	87-015-075-040	CAP,E 10-16V
C5502	87-010-549-010	CAP,E 47-6.3V
C5505	87-010-112-080	CAP,E 100-16V
C5509	87-015-075-040	CAP,E 10-16V
C5511	87-010-549-010	CAP,E 47-6.3V
C5512	87-015-075-040	CAP,E 10-16V
C5513	87-010-402-080	CAP,E 2.2-50V
C5516	87-015-075-040	CAP,E 10-16V
C5518	87-010-549-010	CAP,E 47-6.3V
C5522	87-015-075-040	CAP,E 10-16V
C5524	S0-0NU-501-0M0	CAP,E 1-50 V
C5526	87-015-075-040	CAP,E 10-16V
C5528	87-015-075-040	CAP,E 10-16V
C5529	87-015-695-080	CAP,E 1-50V
C5538	S0-2LU-233-1M0	CAP,E 330-16V
C5539	S0-2LU-033-1M0	CAP,E 330-6.3V
C9008	87-010-235-080	CAP,E 470-16V

*** DIODES ***

REF.NO.	PART NO.	DESCRIPTION
D351	87-020-465-010	DIODE,1SS133T
D601	87-020-465-010	DIODE,1SS133T
D602	87-020-465-010	DIODE,1SS133T
D603	87-020-465-010	DIODE,1SS133T
D604	S2-8T1-1ES-N10	DIODE,11ES1N-TA1B2
D605	87-020-465-010	DIODE,1SS133T
D606	S9-7U0-300-1B0	ZENER,MTZJ30B T-77
D851	87-020-465-010	DIODE,1SS133T
D852	87-020-465-010	DIODE,1SS133T
D854	S2-8TE-QS0-400	DIODE,11EQS04N-TA
D855	87-020-465-010	DIODE,1SS133T
D856	87-020-465-010	DIODE,1SS133T
D857	87-020-465-010	DIODE,1SS133T

ELECTRICAL REPLACEMENT PARTS LIST

*** DIODES ***

REF.NO.	PART NO.	DESCRIPTION
D858	87-020-465-010	DIODE,1SS133T
D859	87-020-465-010	DIODE,1SS133T
D860	87-020-465-010	DIODE,1SS133T
D861	87-020-465-010	DIODE,1SS133T
D863	S2-8TE-QS0-400	DIODE,11EQS04N-TA
D1001	S2-LXE-658-000	DIODE,1N4005E-G23
D1002	87-020-465-010	DIODE,1SS133T
D1003	S0-106-000-600	LED,SID1050CM
D1004	S2-LXE-658-000	DIODE,1N4005E-G23
D1005	S9-2T1-120-B00	ZENER,RD12FB-T7
D1006	S2-3U1-003-A30	DIODE,SB10-03A3
D1007	87-020-465-010	DIODE,1SS133T
D1008	87-017-931-010	ZENER,MTZJ5.6B
D1009	87-020-465-010	DIODE,1SS133T
D1010	S2-3U1-003-A30	DIODE,SB10-03A3
D1012	87-020-465-010	DIODE,1SS133T
D1014	87-020-465-010	DIODE,1SS133T
D1015	87-020-465-010	DIODE,1SS133T
D1016	87-020-465-010	DIODE,1SS133T
D1017	87-020-465-010	DIODE,1SS133T
D1018	S2-8TE-QS0-400	DIODE,11EQS04TA1
D1019	S2-8TE-QS0-400	DIODE,11EQS04TA1
D1020	S2-8TE-QS0-400	DIODE,11EQS04TA1
D4003	87-020-465-010	DIODE,1SS133T
D4202	S2-8T1-1ES-N10	DIODE,11ES1N-TA1B2
D4503	87-020-465-010	DIODE,1SS133T
D4510	87-020-465-010	DIODE,1SS133T
D4511	S1-VT0-013-300	DIODE,1SS133T-77

*** ICS ***

REF.NO.	PART NO.	DESCRIPTION
IC353	S0-FSP-752-200	IC,AN7522
IC601	S0-3DE-681-200	IC,LA76812
IC602	S0-3SB-751-000	IC,LA7510
IC701	87-002-779-010	IC,LA7956
IC851	SC-KD0-010-600	IC,ET106
IC852	SC-KD0-031-700	IC,ET317
IC853	S5-5DC-405-3A0	IC,TC74HC4053AP
⚠ IC1001	S0-7SQ-695-500	IC,BA6955N
IC1002	SE-1J0-S31-AH0	IC,RE5VS31A
IC1003	S1-KA9-780-5A0	IC,KIA7805API
IC1004	S1-KA9-780-5A0	IC,KIA7805API
IC1006	S5-4F5-009-6A0	IC,OEC0096A
IC1099	S5-590-3Q0-150	IC,S-24C08ADPA-01
IC4001	S0-4F3-821-7F0	IC,HA118217F
IC4002	S0-3F6-479-300	IC,LC74793/JM
IC5501	S0-KF7-960-5H0	IC,TDA9605H
IC5502	S0-QF0-253-4V0	IC,NJM2534V(TE2)
IC5503	S0-QF0-253-4V0	IC,NJM2534V(TE2)

*** TRANSISTORS ***

REF.NO.	PART NO.	DESCRIPTION
Q351	89-324-122-080	TR,2SC2412KT
Q352	89-324-122-080	TR,2SC2412KT
Q353	SN-YTB-050-010	TR,DTC114E
Q355	87-026-239-080	DTC114TKAT14
Q356	87-026-239-080	DTC114TKAT14
Q601	SC-3T0-300-000	TR,2SC3000
Q602	89-324-122-080	TR,2SC2412KT
Q603	89-324-122-080	TR,2SC2412KT
Q604	87-026-235-010	TR,DTC114EK
Q605	87-026-235-010	TR,DTC114EK
Q606	87-026-189-010	TR,2SC2814(F3,F4)(T)
Q607	89-324-122-080	TR,2SC2412KT
Q608	89-110-372-080	TR,2SA1037AK
Q609	S8-7A0-241-2K0	TR,2SC2412KT147(R,S)
Q610	89-324-122-080	TR,2SC2412KT
Q611	86-NFZ-664-040	TR,DTC143TKAT14
Q612	89-324-122-080	TR,2SC2412KT
Q613	87-026-236-080	TR,DTC124EK
Q701	89-110-372-080	TR,2SA1037AK
Q851	89-324-122-080	TR,2SC2412KT
Q852	89-324-122-080	TR,2SC2412KT
Q853	89-324-122-080	TR,2SC2412KT
Q855	89-324-122-080	TR,2SC2412KT
Q861	89-324-122-080	TR,2SC2412KT
Q862	89-324-122-080	TR,2SC2412KT

*** TRANSISTORS ***

REF.NO.	PART NO.	DESCRIPTION
Q863	89-324-122-080	TR,2SC2412KT
Q1001	S0-027-005-900	PHOTO COUPLER RPI-301
Q1002	89-324-122-080	TR,2SC2412KT
Q1003	S0-027-005-300	PHOTO,COUPLER RPI-352Q01
Q1004	SN-YTC-050-010	TR,DTC124E
Q1005	S0-027-005-900	PHOTO COUPLER RPI-301
Q1006	SB-3T0-069-800	TR,2SB698(E,F)
Q1007	87-026-239-080	DTC114TKAT14
Q1009	S0-027-005-300	PHOTO,COUPLER RPI-352Q01
Q1010	87-026-228-080	TR,DTA124EK
Q1012	89-324-122-080	TR,2SC2412KT
Q1014	89-324-122-080	TR,2SC2412KT
Q1015	89-324-122-080	TR,2SC2412KT
Q1016	89-324-122-080	TR,2SC2412KT
Q1017	S0-001-003-800	PHOTO TR,PNA2604M010R
Q1020	87-026-287-080	TR,DTC143EKAT146
Q1021	89-324-122-080	TR,2SC2412KT
Q1022	89-110-372-080	TR,2SA1037AK
Q1023	89-324-122-080	TR,2SC2412KT
Q1024	89-324-122-080	TR,2SC2412KT
Q4001	SD-3T0-073-400	TR,2SD734(E,F,G)-AA
Q4002	SD-3T0-073-400	TR,2SD734(E,F,G)-AA
Q4003	87-026-228-080	TR,DTA124EK
Q4004	SC-3T0-333-100	TR,2SC3331(S,T,U)-A
Q4005	SC-3T0-333-100	TR,2SC3331(S,T,U)-A
Q4006	89-110-372-080	TR,2SA1037AK
Q4007	89-324-122-080	TR,2SC2412KT
Q4008	89-324-122-080	TR,2SC2412KT
Q4009	SN-YJC-050-010	TR,DTC124EKAT146
Q4015	SN-YTD-050-010	TR,DTC144EK
Q4201	SN-YTB-050-010	TR,DTC114E
Q4501	89-324-122-080	TR,2SC2412KT
Q4502	89-110-372-080	TR,2SA1037AK
Q4504	89-324-122-080	TR,2SC2412KT
Q4505	89-324-122-080	TR,2SC2412KT
Q4507	89-324-122-080	TR,2SC2412KT
Q4508	89-324-122-080	TR,2SC2412KT
Q4510	89-324-122-080	TR,2SC2412KT
Q4511	89-324-122-080	TR,2SC2412KT

*** COILS ***

REF.NO.	PART NO.	DESCRIPTION
ANT601	S2-3S0-002-4A0	ANT UNIT BT15-0006
B851	S2-4DT-035-810	CORE,BEADS LFP3A-M3R2TA
B4501	S2-4AC-360-1C0	CORE,BEADS BLM21A601SPT
B4502	S2-4DT-035-810	CORE,BEADS LFP3A-M3R2TA
B5501	S2-4DT-035-810	CORE BEADS LFP3A-M3R2TA
L601	S2-167-D10-1K0	COIL,100UH
L603	87-003-146-010	COIL,15UH
L604	S2-1LA-6R2-2M0	COIL,0.22UH
L605	S2-167-D10-1K0	COIL,100UH
L606	S2-1LA-61R-0M0	COIL,1UH
L607	S2-1LA-6R5-6M0	COIL,0.56UH
L608	S3-360-K04-380	COIL,V IFT 360K043
L609	S2-167-D10-1K0	COIL,100UH
L610	S2-16S-12R-2J0	COIL,2.2UH
L611	S2-16S-110-1J0	COIL,100 NL322522T-101J
L612	S2-1LA-63R-9K0	COIL,3.9UH
L613	S2-167-D10-1K0	COIL,100UH
L614	S2-1LA-61R-5K0	COIL,1.5UH
L701	S2-167-D10-1K0	COIL,100UH
L851	87-003-102-010	COIL,10UH
L852	87-003-102-010	COIL,10UH
L856	87-003-102-010	COIL,10UH
L1001	87-003-282-010	COIL,12UH
L1002	S2-167-D10-1K0	COIL,100UH
L1003	S2-167-D10-1K0	COIL,100UH
L1005	S2-1LA-610-1K0	COIL,100UH
L4001	S3-262-300-380	COIL,TRAP 2623003
L4002	S2-167-F10-1J0	COIL,100UH
L4003	S2-167-D10-1K0	COIL,100UH
L4004	S2-167-F10-1J0	COIL,100UH
L4005	S3-162-600-880	COIL,BIAS OSC 1626008
L4006	87-003-112-010	COIL,1MH
L4007	S2-167-D10-1K0	COIL,100UH

ELECTRICAL REPLACEMENT PARTS LIST

REF.NO.	PART NO.	DESCRIPTION
		*** COILS ***
L4007	S2-167-D10-1K0	COIL,100UH
L4008	87-003-112-010	COIL,1MH
L4009	S2-167-D10-1K0	COIL,100UH
L4010	S2-167-310-1K0	COIL,100UH
L4011	87-003-282-010	COIL,12UH
L4012	87-003-154-080	COIL,220UH
L4013	S2-167-D10-1K0	COIL,100UH
L4015	S2-167-D10-1K0	COIL,100UH
L4016	87-003-285-010	COIL,39UH
L4017	S2-1LA-627-1K0	COIL,270UH
L4018	87-003-147-010	COIL,22UH
L4019	S2-1LA-610-1J0	COIL,100UH
L4501	87-003-102-010	COIL,10UH
L4502	87-003-152-010	COIL,100UH
L4503	87-003-102-010	COIL,10UH
L4504	87-003-102-010	COIL,10UH
L4508	87-003-102-010	COIL,10UH
L5501	S2-167-F10-1J0	COIL,100UH
L5502	S2-167-F10-1J0	COIL,100UH
L5503	S2-1B7-310-2K0	COIL,1MH
		*** JACKS ***
J4501	S6-3G1-000-370	SOCKET,21PIN 035_0_9985_0
		*** SWITCHES ***
SW1001	S5-082-210-010	SW,LEAF SPVF130100
		*** CONNECTORS ***
CP353	S6-9W1-400-290	CONN,PCB TID-X04P-M1
CP603	S6-9E2-901-290	CONN,PWB SIDE
CP605	S6-9E2-501-290	CONN,PWB SIDE
CP755	S6-9E2-A01-290	CONN,PWB SIDE
CP810	S6-9J1-C00-380	CONN,IMSA-9130B-12
CD1001	S2-2S0-408-040	CORD,1.25-4-83-C
CD4001	S2-2S0-614-010	CORD,1.25-6-138-C
CP1004	S6-972-805-900	CONN PWB SIDE TMC-J08P-B1
CP1005	S6-9J7-500-290	CONN,IMSA-9604S-05Z14
CP1006	S6-9J7-400-290	CONN,PCB SIDE IMSA-9604S-04Z14
CP4001	S6-972-906-200	CONN PWB SIDE TOC-C09X-A1
CP4004	S6-971-203-200	CONN,TMC-TD2X-E1
CP4005	S6-9J7-600-290	CONN,IMSA-9604S-06Z14
CP4202	S6-9E2-B01-290	CONN,PWB SIDE
		*** FILTERS ***
CF601	S0-22V-39R-520	FILTER,SAW SAF39.5MZL220ZL
CF603	S0-22U-32R-910	FILTER,SAW SAF32.9MDE210Z
CF604	S0-12T-031-020	FILTER,CERAMIC TRAP MKT31.5MA110P
CF605	S0-12T-041-010	FILTER,CERA MKT41.5MA110P
	*** CRYSTAL & CERAMIC OSCILLATORS ***	
X601	S0-0CT-4R4-060	X'TAL HC-94/U
X851	S0-0CT-013-020	X'TAL HC-49/U-S
X1001	S0-0CT-010-020	X'TAL,HC-49/U
X1002	S0-0D3-2R8-010	X'TAL,32.768K
X4001	S0-0CT-4R4-070	X'TAL HC-49/U
		*** TUNER ***
⚠ TU601	S1-445-070-010	TUNER,UHF TUWOF4EK-771F2
TU1001	S1-445-070-010	TUNER,UHF TUWOF4EK-771F2
		*** OTHERS ***
CD820	S6-CH2-E01-4A0	CORD CONN CH2E014A
CD850	S6-CH2-509-0A0	CORD CONN CH25090A
CD6001	S6-C6H-140-020	CORD,COAXIAL C6H14002
		OPERATION PCB ASS'Y
		*** RESISTORS ***
R351	S0-02T-282-0J0	RES,82-1/2W

REF.NO.	PART NO.	DESCRIPTION
		*** RESISTORS ***
R352	S0-02T-282-0J0	RES,82-1/2W
		*** CAPACITORS ***
C352	87-010-380-080	CAP,E 47-16V
C353	87-010-380-080	CAP,E 47-16V
C755	87-015-975-080	CAP,E 220-6.3V
		*** DIODES ***
D791	S0-217-211-500	LED,
D793	S0-217-211-500	LED,
D794	S0-217-211-500	LED,
D795	S0-213-5Q1-600	LED,SLZ-345B-02
D796	S0-217-211-500	LED,
		*** COILS ***
L002	S2-A6A-8A0-A10	CORE,FERRITE HF57T18.5*10*10
L003	S2-A6A-8A0-A10	CORE,FERRITE HF57T18.5*10*10
		*** JACKS ***
⚠ J351	S6-021-310-120	JACK,RCA 3.5 HSJ2630-0100
J701	S6-024-310-130	JACK,RCA
		*** SWITCHES ***
SW750	S5-042-01T-310	SW,TACT SKHVBED010
SW751	S5-042-01T-310	SW,TACT SKHVBED010
SW791	S5-042-01T-310	SW,TACT SKHVBED010
SW792	S5-042-01T-310	SW,TACT SKHVBED010
SW793	S5-042-01T-310	SW,TACT SKHVBED010
SW794	S5-042-01T-310	SW,TACT SKHVBED010
SW795	S5-042-01T-310	SW,TACT SKHVBED010
SW796	S5-042-01T-310	SW,TACT SKHVBED010
SW797	S5-042-01T-310	SW,TACT SKHVBED010
SW798	S5-042-01T-310	SW,TACT SKHVBED010
SW799	S5-042-01T-310	SW,TACT SKHVBED010
		*** OTHERS ***
CD702	S6-CH2-B03-5A0	CORD CONN CH2B035A
CD757	S6-CH2-A01-4A0	CORD,CONN CH2A014A
OS753	S7-7Q0-000-190	REMOTE RECEIVER PIC-28143TC5
		MAIN PCB ASS'Y
		*** RESISTORS ***
R406	S0-02T-210-3J0	RES,10K-1/2W
R411	S4-X5T-622-3F0	RES,MF 22K-1/6W
R413	S4-X5T-633-3F0	RES,M 33K-1/6W
R429	S4-X5T-627-2F0	RES,M 2.7K-1/6W
⚠ R436	S6-558-212-0J0	RES,FUSE 12-1/2W
⚠ R437	S3-X18-101-0J0	RES,M MOR1W010JB/B 1
⚠ R448	SF-F01-02J-B10	RES,M 1K-1W
⚠ R449	S5-X2C-E27-2J0	RES,CEMENT 2.7K-7W
⚠ R450	S3-X18-1R6-8J0	RES,M 0.68
⚠ R452	S3-X18-12R-2J0	RES,M/O 2.2-1W
⚠ R501	S5-X2C-E2R-2J0	RES,CEM 2.2-7W
⚠ R512	S3-X18-110-3J0	RES,MO 10K-1W
⚠ R528	S3-328-B39-3J0	RES,M/O 39K-3W
R529	87-025-277-010	RES,M 2.7K-1/4W
⚠ R543	S6-358-468-1J0	RES,FUSE 680-1/4W
R544	S3-X18-1R2-2J0	RES,MO 0.22-1W
		*** CAPACITORS ***
C403	87-010-560-080	CAP,E 10-50V
C404	87-016-636-080	CAP,E 4.7-50V
C405	87-016-636-080	CAP,E 4.7-50V
C406	S5-EZT-410-1M0	CAP,E 100-35V
⚠ C407	S5-EZF-322-2M0	CAP,E 2200-25V
C408	S0-2LT-522-1M0	CAP,E 220-50V
C412	S0-JTB-05N-2K0	CAP,CER 390P-500V

ELECTRICAL REPLACEMENT PARTS LIST

REF.NO.	PART NO.	DESCRIPTION
		*** CAPACITORS ***
⚠ C413	S3-N1F-533-3J0	CAP,PP 0.033-630V
C417	S0-JTB-05S-2K0	CAP,CER 560PF-500V
C418	S5-EZT-B01-0M0	CAP,E 1-160V
C420	87-010-560-080	CAP,E 10-50V
⚠ C421	S5-EZF-422-2M0	CAP,E 2200-35V
C423	S4-41F-247-4J0	CAP,MPP 0.47-200V
C424	87-010-263-010	CAP,E 100-10V
C425	87-015-694-080	CAP,E 0.47-50V
C427	S5-3FF-56R-8K0	CAP,E 6.8-50V NP
⚠ C428	S4-N8F-J12-3H0	CAP,MPP 0.012-1.25KV
C429	87-012-386-080	CAP,CER 470PF-2K
C430	S0-34B-N71-3K0	CAP,CER 0.001-2KV
⚠ C431	87-016-373-080	CAP,E 10UF-250V
C438	87-010-977-010	CAP,CER 680PF-500V
⚠ C443	S4-N8F-J22-2H0	CAP,M 0.0022UF-1.25KV
C450	S0-34B-N71-3K0	CAP,CER 0.001-2KV
C504	S5-3VF-C22-1M0	CAP,E 220-200V
⚠ C505	S2-122-B22-4M0	CAP,0.22-250V E
⚠ C506	S2-122-B10-4M0	CAP,MP 0.1-250V
⚠ C507	S5-2C0-H22-1M0	CAP,E 220-400V
C508	S0-2LT-54R-7M0	CAP,E 4.7-50V
⚠ C510	S5-EZT-510-1M0	CAP,E 100-50V MTA
C513	S5-EZT-522-0M0	CAP,E 22-50V
C514	S0-1BB-P7K-3K0	CAP,CER 0.0027-2KV
C516	S0-JTB-05S-2K0	CAP,560P-500V B
C517	S0-1BB-P7K-3K0	CAP,0.0027-2KV BP
C518	S0-JTB-05S-2K0	CAP,560P-500V B
C519	S0-JTB-05S-2K0	CAP,560P-500V B
⚠ C520	87-010-618-010	CAP,E 2200-16V
⚠ C521	S6-2D0-C22-1M0	CAP,E 220-200V
⚠ C523	S5-EZT-447-1M0	CAP,E 470-35V
⚠ C524	S5-EZF-310-2M0	CAP,E 1000-25V
C527	S0-JTB-05S-2K0	CAP,560P-500V B
C530	SB-393-0M1-3M0	CAP,CER 0.001-250V
C531	87-010-618-010	CAP,E 2200-16V
⚠ C533	SB-373-0M1-3M0	CAP,0.001-250V
C534	87-016-088-040	CAP,E 220-6.3V
⚠ C537	87-015-694-080	CAP,E 0.47-50V
		*** DIODES ***
D401	S2-WT0-11E-100	DIODE,11E1-EIC
D402	S9-7U0-300-1B0	ZENER,MTZJ30B T-77
D403	87-A40-500-080	ZENER,MTZJ30B T-77
D404	87-A40-500-080	ZENER,MTZJ30B T-77
D406	S2-LTP-G06-J00	DIODE,RMPG06J
⚠ D407	SC-BFM-V3F-U00	DIODE,FMV-3FULF027-102
D410	S3-Z68-V10-000	ZENER,MTZJ6.8B
⚠ D411	S2-LTP-G06-J00	DIODE,RMPG06J
⚠ D413	S2-LTP-G06-J00	DIODE,RMPG06J
D414	S2-LTP-G06-J00	DIODE,RMPG06J
⚠ D415	S2-LTP-G06-J00	DIODE,RMPG06J
⚠ D501	S4-LZB-L06-L00	DIODE,GBL06L-6177
D502	S2-BX0-EG0-1C0	DIODE,EG-01CV1
⚠ D503	S2-BTR-U2A-M00	DIODE,RU2AM V1
⚠ D505	S2-8F2-1DQ-N90	DIODE,21DQ09N-FC4
D506	S2-LTP-G06-J00	DIODE,RMPG06J
⚠ D508	S2-8T2-1DQ-N90	DIODE,21DQ09N-TA2B
D509	S2-8F2-1DQ-N90	DIODE,21DQ09N-FC4
⚠ D510	S2-BTR-U2A-M00	DIODE,RU2AM V1
⚠ D511	S2-8T1-0EL-S20	DIODE,10ELS2N-TA1
⚠ D512	S2-8T2-1DQ-N90	DIODE,21DQ09N-TA2B
⚠ D514	S2-8T2-1DQ-N90	DIODE,21DQ09N-TA2B
⚠ D515	87-002-743-080	ZENER,MTZJ33B T77
D516	87-020-465-010	DIODE,1SS133T
D517	87-020-465-010	DIODE,1SS133T
D518	87-020-465-010	DIODE,1SS133T
⚠ D519	S2-8T2-1DQ-N90	DIODE,21DQ09N-TA2B
D521	87-020-465-010	DIODE,1SS133T
D523	87-020-465-010	DIODE,1SS133T
D524	87-020-465-010	DIODE,1SS133T
D525	87-020-465-010	DIODE,1SS133T
D526	87-020-465-010	DIODE,1SS133T
D528	87-017-931-010	ZENER,MTZJ5.6B
D529	87-020-465-010	DIODE,1SS133T
D530	87-020-465-010	DIODE,1SS133T
D531	S2-BTR-U2Y-X00	DIODE,RU2YX-V1

REF.NO.	PART NO.	DESCRIPTION
		*** DIODES ***
D533	S2-8T1-0EL-S20	DIODE,10ELS2N-TA1
D535	S2-8F2-1DQ-N90	DIODE,21DQ09N-FC4
⚠ Q514	S0-025-004-500	PHOTO,COUPLER TLP621(GR)
⚠ TH501	S8-R0A-140-M00	DEGAUSS ELEMENT PTH451A140M21
		*** ICS ***
⚠ IC401	S0-3TD-804-000	IC,LA78040
IC501	S2-BT0-670-700	IC,STR-F6707
		*** TRANSISTORS ***
⚠ Q405	S2-SC2-621-D00	TR,2SC2621(D,E)
⚠ Q406	SD-UU0-249-900	TR,2SD2499(LBOEC1)
Q407	89-318-154-080	TR,2SC1815Y
Q408	89-110-154-080	TR,2SA1015Y(TPE2)
Q409	SD-300-166-700	TR,2SD1667(R,S)
Q502	SA-3T1-371-A00	TR,2SA1371
Q503	SA-3T1-371-A00	TR,2SA1371
Q504	89-318-154-080	TR,2SC1815Y
Q505	SC-3T0-290-900	TR,2SC2909
Q507	89-309-458-010	TR,2SC945(C)
⚠ Q508	SB-3T0-089-200	TR,2SB892
Q509	87-026-464-080	TR,DTC114TS
Q512	SC-3T0-290-900	TR,2SC2909
Q513	SN-YTB-030-010	TR,DTC114E
		*** COILS ***
B504	S2-4AT-036-550	CORE,BEADS BL01RN1-A63T6
B505	S2-4AT-034-820	CORE,BEADS
⚠ L402	S2-210-002-7A0	COIL,LINEARITY ELH5L4113
L481	S2-D80-000-120	TIB PIN PHASE COIL D8000012
⚠ L501	S2-9X0-000-870	COIL,FILTER SS24V-10100
⚠ L502	S2-9X0-000-870	COIL,FILTER SS24V-10100
		*** TRANSFORMERS ***
⚠ FB401	S4-322-101-1Q0	TRANS,FLYBACK 3221011Q
T401	S4-501-300-1J0	TRANS,H DRIVE
⚠ T501	S4-814-206-1W0	TRANS,SW 8142061W
		*** VARIABLE RESISTORS ***
VR401	S1-262-H4B-T60	VR,RH063LCJ4R
VR402	S1-262-Q3B-T60	VOLUME,SFR RH063LCS3R
VR403	S1-262-H3B-T60	SFR,RH063LCJ3R17A
VR404	S1-262-H3B-T60	SFR,RH063LCJ3R17A
VR502	S1-163-L2B-TC0	VOL,EVNCYAA03BY2
		*** CONNECTORS ***
CD803	S2-2E0-544-020	CORD JUMPER 2E054402
CP401	S6-9X4-500-290	CONN PWB SIDE B05B-DVS
CP402	S6-9W0-100-1A0	CONN PCB SIDE 003P-2100
CP502	S6-973-200-390	CORD UX CONNECTOR
CP820	S6-9E2-E01-290	CONN,8283_1412_00_000
		*** FUSES ***
CP803A	S6-7R1-050-190	HOLDER,WIRE 51052-0500
⚠ F501	S8-0PT-040-020	FUSE,4A-250V T
⚠ F502	S8-08T-2R5-020	FUSE 21802.5
FH501	S6-710-T00-060	HOLDER,FUSE EYF-52B
FH502	S6-710-T00-060	HOLDER,FUSE EYF-52B
FH503	S6-710-T00-060	HOLDER,FUSE EYF-52B
FH504	S6-710-T00-060	HOLDER,FUSE EYF-52B
		*** RELAYS ***
⚠ RY501	S5-60Q-201-140	RELAY SDT-S-112LMR

ELECTRICAL REPLACEMENT PARTS LIST

REF.NO.	PART NO.	DESCRIPTION
		*** OTHERS ***
CD504	S6-CP8-203-7A0	CORD CONN CP82037A
CD802	S6-CP8-203-5A0	CORD CONN CP82035A
EL002	S2-412-030-1A0	EYE LET XRY20X30BD
ICP502	S8-3PC-070-020	MICRO FUSE 251007
ICP504	S8-3PC-050-020	MICRO FUSE,251005
		TV POWER PCB ASS'Y
		*** COILS ***
L505	S2-D50-000-510	COIL CHOKE CH15049420
		CRT PCB ASS'Y
		*** RESISTORS ***
⚠ R804	87-025-590-060	RES,M 15K-2W
⚠ R806	87-025-590-060	RES,M 15K-2W
⚠ R808	87-025-590-060	RES,M 15K-2W
		*** CAPACITORS ***
C808	S0-34B-N71-3K0	CAP,CER 0.001-2KV
C814	87-016-322-080	CAP,E 1-250V
		*** DIODES ***
D801	87-020-465-010	DIODE,1SS133T
D802	87-020-465-010	DIODE,1SS133T
D803	87-020-465-010	DIODE,1SS133T
		*** TRANSISTORS ***
⚠ Q801	S2-SC2-621-D00	TR,2SC2621(D,E)
⚠ Q802	S2-SC2-621-D00	TR,2SC2621(D,E)
⚠ Q803	S2-SC2-621-D00	TR,2SC2621(D,E)
⚠ Q810	SC-7T1-740-S00	TR,2SC1740SP(R,S)
⚠ Q811	SC-7T1-740-S00	TR,2SC1740SP(R,S)
⚠ Q812	SC-7T1-740-S00	TR,2SC1740SP(R,S)
		*** COILS ***
L802	S2-167-D82-0K0	COIL,82UH EL0607RA-820
L804	S2-167-D82-0K0	COIL,82UH EL0607RA-820
		*** CONNECTORS ***
CP805	S6-9E2-501-290	CONN,PWB SIDE
		*** FUSES ***
CP803B	S6-7R1-050-190	HOLDER,WIRE 51052-0500
		*** CRT SOCKET ***
⚠ J801	S6-6C1-300-170	SOCKET,CRT CVT3275-5101
		SUB POWER PCB ASS'Y
		*** RESISTORS ***
R9010	S3-X18-133-0J0	RES,M/O 33-1W
		*** CAPACITORS ***
C9002	87-010-235-080	CAP,E 470-16V
C9003	S0-2LU-233-1M0	CAP,E 330-16V
C9004	S0-2LU-047-1M0	CAP,E 470-6.3V
C9005	S0-2LU-233-1M0	CAP,E 330-16V
C9006	S0-2LU-047-1M0	CAP,E 470-6.3V
C9007	87-010-235-080	CAP,E 470-16V
C9008	87-010-235-080	CAP,E 470-16V

REF.NO.	PART NO.	DESCRIPTION
		*** DIODES ***
D9001	87-020-465-010	DIODE,1SS133T
D9002	87-020-465-010	DIODE,1SS133T
D9003	87-020-465-010	DIODE,1SS133T
D9004	87-020-465-010	DIODE,1SS133T
D9005	S2-8TE-QS0-400	DIODE,11EQS04TA1
D9006	S2-8TE-QS0-400	DIODE,11EQS04TA1
D9007	87-020-465-010	DIODE,1SS133T
		*** ICS ***
IC9001	S1-KA9-780-9A0	IC,KIA7809API
IC9002	S1-KA9-780-5A0	IC,KIA7805API
IC9003	S1-KA9-780-5A0	IC,KIA7805API
		*** TRANSISTORS ***
Q9001	SB-3T0-089-200	TR,2SB892
Q9002	89-318-154-080	TR,2SC1815Y
Q9003	SB-3T0-089-200	TR,2SB892
Q9004	SB-3T0-089-200	TR,2SB892
		*** CONNECTORS ***
CP9002	S6-9J1-C00-480	CONN,IMSA-9130S-12L
		*** OTHERS ***
CD9001	S6-CH2-811-2A0	CORD CONN CH28112A
CD9002	S6-CH0-143-2A0	CORD CONN CH01432A
		STEREO PCB ASS'Y
		*** RESISTORS ***
R6639	S3-X18-127-0J0	RES,MO 27-1W MOR1W270JB/B
		*** CAPACITORS ***
C6601	87-010-549-010	CAP,E 47-6.3V
C6611	87-010-402-080	CAP,E 2.2-50V
C6612	87-010-402-080	CAP,E 2.2-50V
C6618	87-015-695-080	CAP,E 1-50V
C6634	87-010-549-010	CAP,E 47-6.3V
C6644	87-010-402-080	CAP,E 2.2-50V
C6645	87-010-402-080	CAP,E 2.2-50V
C6651	87-015-695-080	CAP,E 1-50V
C6665	87-010-549-010	CAP,E 47-6.3V
C6667	87-010-549-010	CAP,E 47-6.3V
C6669	87-015-680-010	CAP,E 47-10V
		*** DIODES ***
D6601	SD-1RM-A36-700	DIODE,MA367
D6602	SD-1RM-A36-700	DIODE,MA367
		*** ICS ***
IC6601	S0-KFA-987-4H0	IC,TDA9874H
IC6602	S0-KFA-987-4H0	IC,TDA9874H
IC6603	S1-KA9-780-5A0	IC,KIA7805API
		*** COILS ***
L6601	87-003-142-010	COIL,3.3UH
L6602	87-003-142-010	COIL,3.3UH
L6603	S2-167-D10-1K0	COIL,100UH
L6604	S2-167-D10-1K0	COIL,100UH
		*** CONNECTORS ***
CP6601	S6-9Q1-901-790	CONN,CPB1809-0101
CP6602	S6-9J1-402-600	CONN,PCB 6035B-04Z002-T

ELECTRICAL REPLACEMENT PARTS LIST

REF.NO.	PART NO.	DESCRIPTION
		*** CRYSTAL & CERAMIC OSCILLATORS ***
X6601	S0-0CT-024-010	X'TAL,HC-49/U
X6602	S0-0CT-024-010	X'TAL,HC-49/U
		POWER SW PCB ASS'Y
		*** SWITCHES ***
⚠ SW501	S5-302-050-010	SW,PLUS SDDFC3056A
		*** CONNECTORS ***
CP501	S6-973-200-390	CORD UX CONNECTOR
		*** AC CORD ***
⚠ CD501	S2-066-358-230	CORD AC 1206635823
		*** OTHERS ***
CD502	S6-CHU-201-7A0	CORD CONN CHU2017A
		IF PCB ASS'Y
		*** CAPACITORS ***
C6002	87-010-071-080	CAP,E 1-50V
C6003	87-010-404-080	CAP,E 4.7-50V
C6004	87-010-112-080	CAP,E 100-16V
C6011	87-010-825-010	CAP,E 0.22-50V
		*** ICS ***
IC6001	S0-3D7-567-B00	IC,LA7567B
		*** TRANSISTORS ***
Q6001	SA-3T0-608-KF0	TR,2SA608KF-NP-AA
Q6005	SC-3T0-300-000	TR,2SC3000
Q6006	SC-KT0-131-700	TR,2SC1317(Q,R,S)-T
		*** COILS ***
L6003	S2-1LA-62R-7K0	COIL,2.7 LAP02TA2R7K
L6006	S3-360-K04-2R0	COIL,VIDEO IFT 360K042
L6007	87-003-146-010	COIL,15UH
L6008	S2-1LA-6R2-2M0	COIL,0.22 LAP02TAR22M
L6011	87-003-141-010	COIL,1.2UH
		*** FILTERS ***
CF6001	S0-12T-6R0-120	FILTER,CER SFSH6.0MCB-TF21
CF6002	S0-22V-39R-520	FILTER,SAW SAF39.5MZL220ZL
CF6004	S0-221-32R-910	FILTER,SAW SAF32.9MC70Z
CF6005	S0-12T-6R0-030	CER,FLTR TPS6.0M
CF6007	S0-12T-031-020	FILTER,CERA MKT31.5MA110P
CF6008	S0-12T-041-010	FILTER,CERA MKT41.5MA110P
		AND OTHERS
		*** OTHERS ***
CD802	S6-CP8-203-5A0	CORD CONN CP82035A
		*** CONNECTORS ***
CD1001	S2-2S0-408-040	CORD,1.25-4-83-C
CD4001	S2-2S0-614-010	CORD,1.25-6-138-C
		*** COILS ***
⚠ L503	S2-8Q2-000-150	COIL,DEGAUSS 8Q200015
		*** OTHERS ***
CD353	S6-CH1-441-0A0	CORD CONN CH14410A
SP301	S7-0V0-420-010	SPKR S0410J05A
SP302	S7-0V0-420-010	SPKR S0410J05A
⚠ V801	S9-8W2-104-190	CRT,W/DY A51LSH196X01(O)
BT001	S4-120-040-070	BATT,UM-4(GR

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